TEXTILE WORLD

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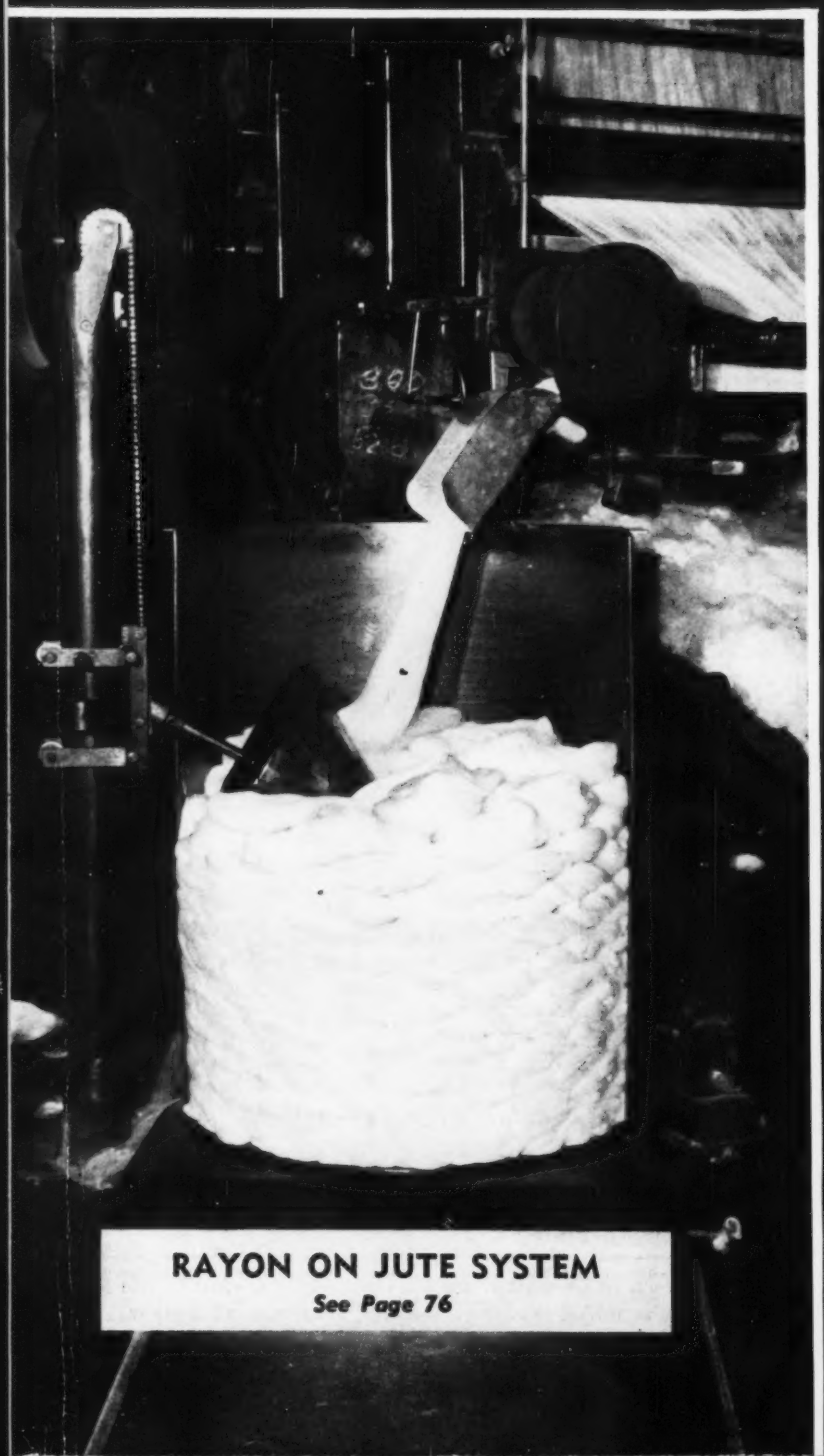

RAYON ON JUTE SYSTEM

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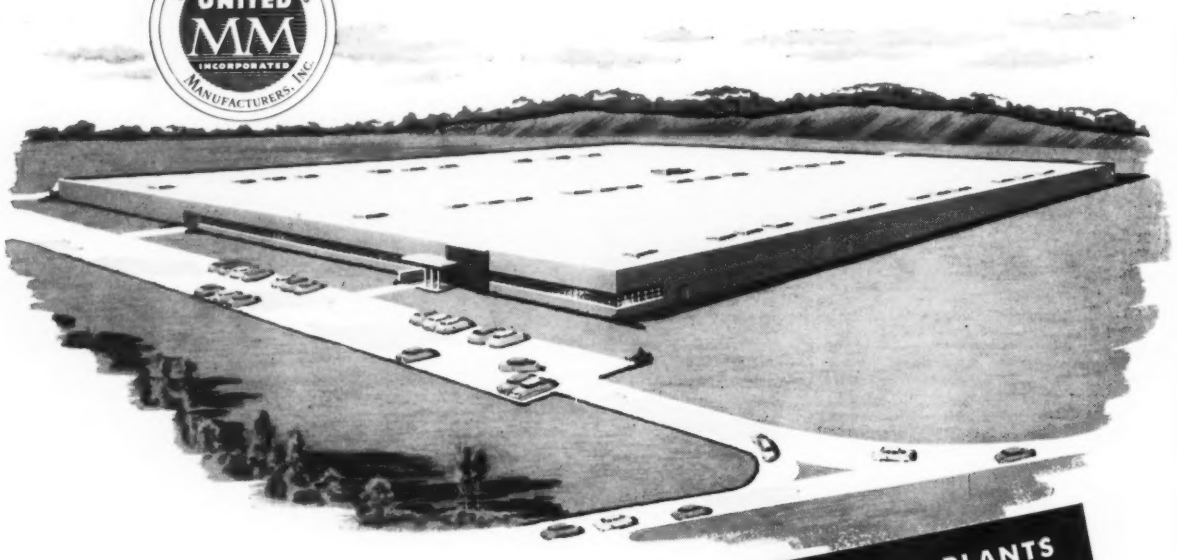

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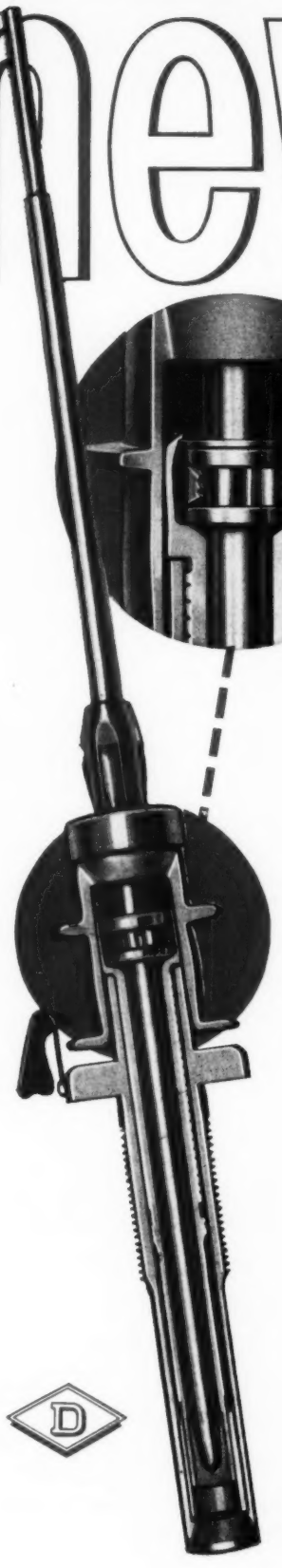

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(Advertisement)

The LONG-RANGE View

Charleston? . . . Liverpool? . . . Le Havre? . . . Tokyo? . . . Bombay?

Where Do We Want Our Mills?

Take a good look at the above picture. It was taken at the port of Charleston, S. C., on April 3 and shows the first shipment of wool being unloaded for scouring and combing in the South. It undoubtedly suggests to many textile men that woolen and worsted mills will move in large numbers to the more favorable business climate of the South.

Because of recent occurrences in regard to tariffs, the real question is not whether we want mills to stay in New England but whether we want them to stay in the United States.

On this page in December we published a discussion called "The 'Open Door'—And Closed Mills" on the subject of doing away with tariffs. Since that time, the Randall report to the president has been made public and a bill incorporating Randall-committee recommendations for lowering tariffs has been introduced in Congress. The bill contains several features that lend themselves to the creation of ridiculous inequities within an over-all ridiculous textile-tariff structure. However, we need concern ourselves here only with the broad proposition that the whole intent is to beat down tariffs.

Everyone knows that mills have moved and are moving to the South from New England and the Middle Atlantic states for one reason: mill products can be made with less labor-cost content in the South than in the other sections. Look at it any way you wish, kick it around as much as you like, cloud it up with political talk—and it always comes out there. So the tariff question really boils down to this: Can U. S. textile-production methods offset the advantage of low labor costs in other countries?

Anyone who has seen many mills in other countries knows that that is an empty question. The answer is No.

Late last fall in a mill in France we made a comparison of costs of producing cotton yarn in that mill and an above-the-average mill we know quite well in the U. S. The French mill produced for 10.2¢ what it costs the U. S. mill 16.2¢ to produce, in spite of the fact that production per manhour was eight to five in favor of the U. S. mill.

Of course, these are figures from individual mills; they are not based on all-U. S.-mills averages vs. all-French-mills averages. However, they are a concrete example of a comparison we personally know to be true. Since the two mills in question were both outstanding mills, we believe the comparison, though based on isolated cases, is a reasonable one.

Comparison of the labor-cost content of textile products in other countries, with the possible exception of Britain, very likely would show U. S. mills at a greater disadvantage.

Anyone who has studied the New England vs. the South problem knows that it was a much smaller differential of labor-cost content than the 16.2¢ to 10.2¢ that caused wholesale migration from New England. We can see nothing, except the tariff protection the "free traders" are trying to kill, to keep U. S. mills in business in the U. S.

What can mill men do about it? Besides the work being done by associations such as ACMI and ATMA, mill men individually should do two things:

1. Get their own thinking straight so that they are not gullible to the free traders' propaganda.
2. Take every opportunity to speak out in the interest of themselves and the textile industry.

O. M. Thomas

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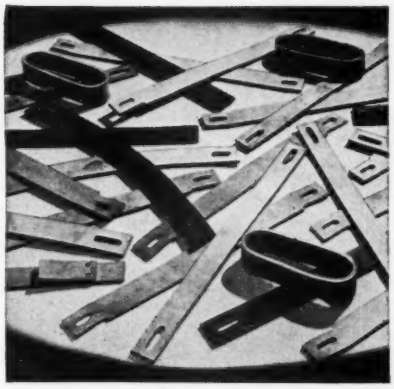

More Than a Dozen Cotton Mills Report Cutting Strap Costs in Half

To determine the specific advantages of its Tannate Special Leather check straps, J. E. Rhoads & Sons recently analyzed reports submitted by users during the past 8 years. Outstanding in each of these reports was the fact that each of these mills had cut their strap costs in half.

These were not reports of tests run on a limited number of looms. Reports were made by more than a dozen cotton mills throughout the south, weaving all types of cloth on roughly 7,146 looms. (Model E, X, X-2, XD and XP Draper looms as well as Hunt Looms). These looms were running anywhere from 150 to 200 picks per minute, three shifts a day, six days a week. The performance of Tannate Special checks was compared to all makes and shapes of straps.

One mill reported using one third the pounds of Tannate Special check straps as compared to the straps previously used. Another mill reported Tannate Special checks averaging 6,000 loom hours, on 40" E model Draper looms, running at 165 picks per minute. Still another reported, "We tried all kinds of straps in the past but Tannate Special checks cut our strap costs by more than half."

A booklet giving highlights from several of the reports has been prepared by J. E. Rhoads & Sons. Free copies are available by simply writing J. E. Rhoads & Sons, 35 N. 6th Street, Phila. 6, Pa.

Mills get long life from Rhoads Harness straps

Many cotton weaving mills are standardizing on Rhoads Harness and Jack straps because of the long strap life they have experienced with them. Rhoads claims this long life results from the extraordinarily high tensile strength built into the straps by their special tannage.

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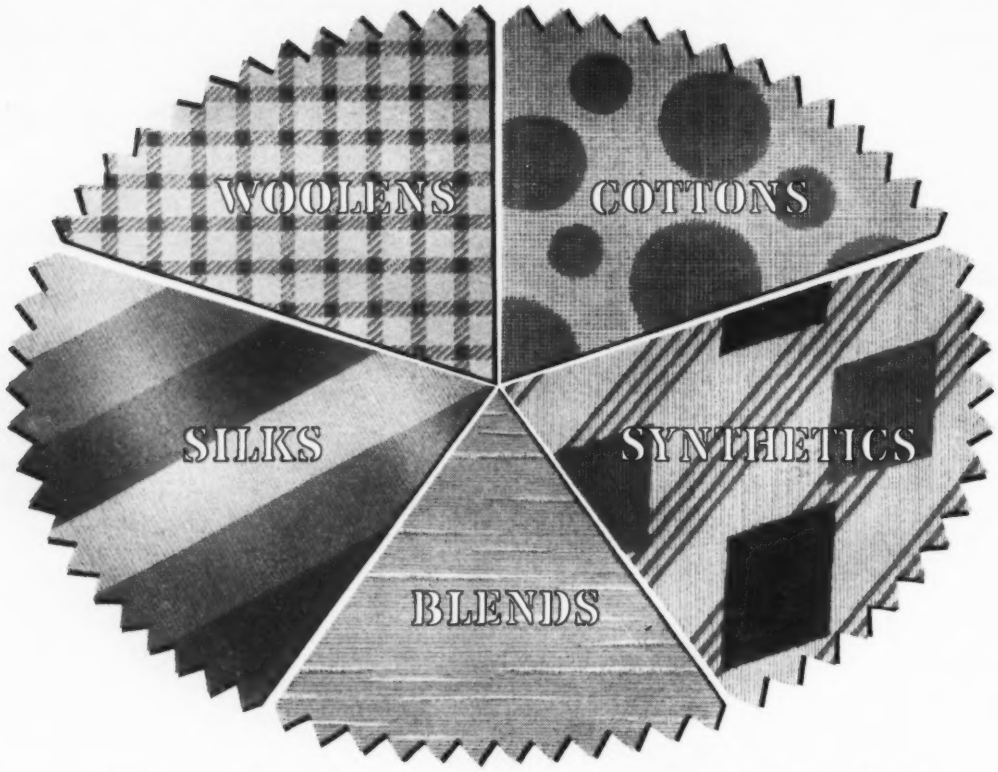

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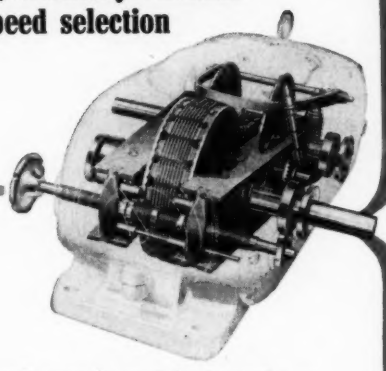

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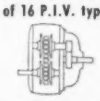

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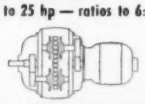
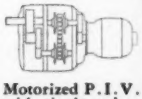
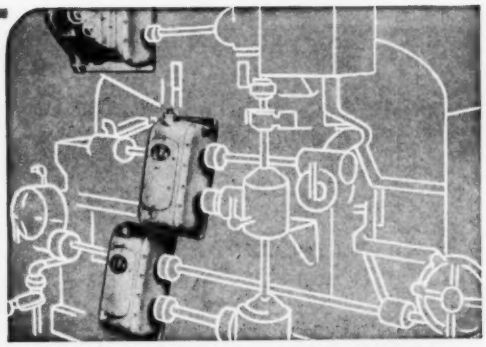


Motorized P.I.V. with single reduction input and output helical gears.



Motorized P.I.V. with single reduction input and double reduction output helical gears.



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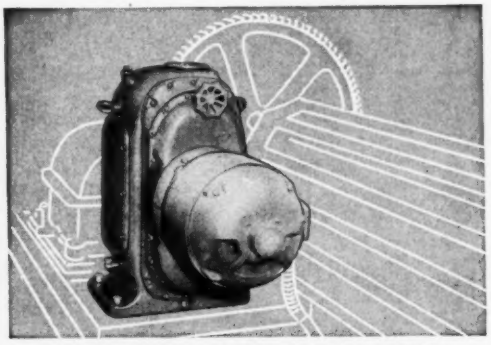
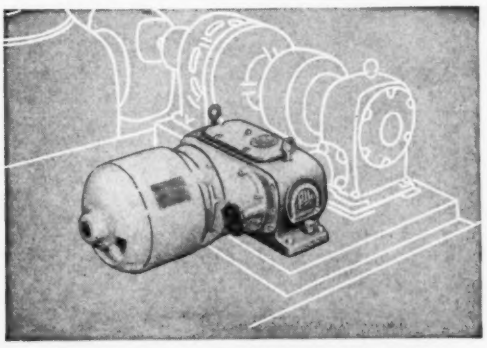
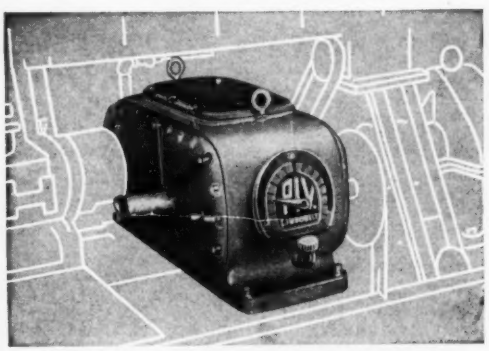


FLEXIBILITY IN TIMING. In addition, P.I.V. offers accurate control of processing speeds, unaffected by atmospheric conditions.



STEPLESS CONTROL OF PRODUCTION LINES OR INDIVIDUAL MACHINES, either manually or automatically, positively, dependably.



EXACT SYNCHRONIZATION OF ROTATING PARTS AND MACHINES. P.I.V. is needed where automatic sequence control must be stepless.

Strangled.... by OBSOLESCENCE

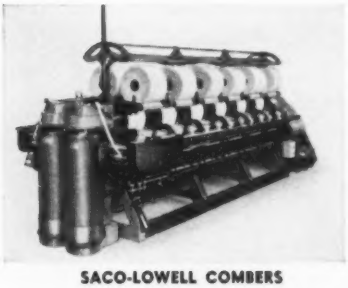
IF OBSOLETE EQUIPMENT IS STRANGLING YOUR PROFITS BY INCREASING YOUR COSTS — IT'S TIME TO *Saco-Lowellize*

SACO-LOWELL No. 15 OPENER WITH F-7 CLEANING AND BLENDING FEEDERS

Saco-Lowellizing eliminates losses due to obsolescence; increases efficiency; improves quality — specifically, the Saco-Lowellizing program decreases your operating costs — helps you produce a better product and make a larger profit.

Call the nearest Saco-Lowell office — arrange to have a Saco-Lowell Engineer prepare a "Forecast of Savings from Saco-Lowellizing" for your mill.

SACO-LOWELL GWALTNEY SPINNING FRAMES



SACO-LOWELL COMBERS

SACO-LOWELL 4 OVER 5 DRAWING FRAME

SACO-LOWELL No. 16-1 OPENER

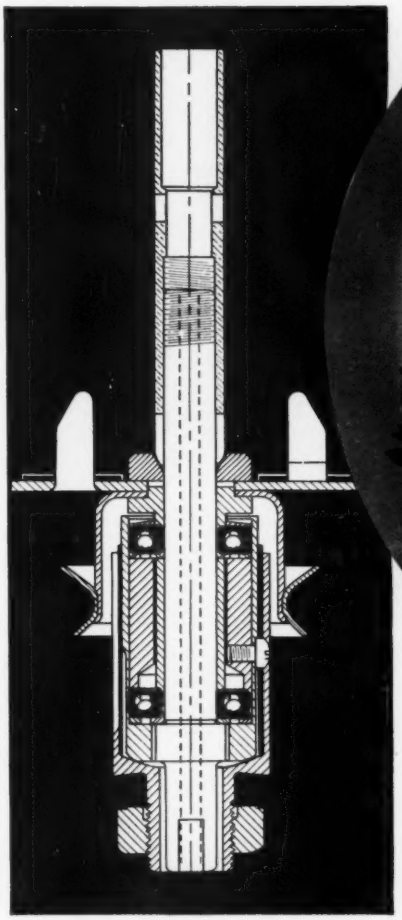
SACO-LOWELL

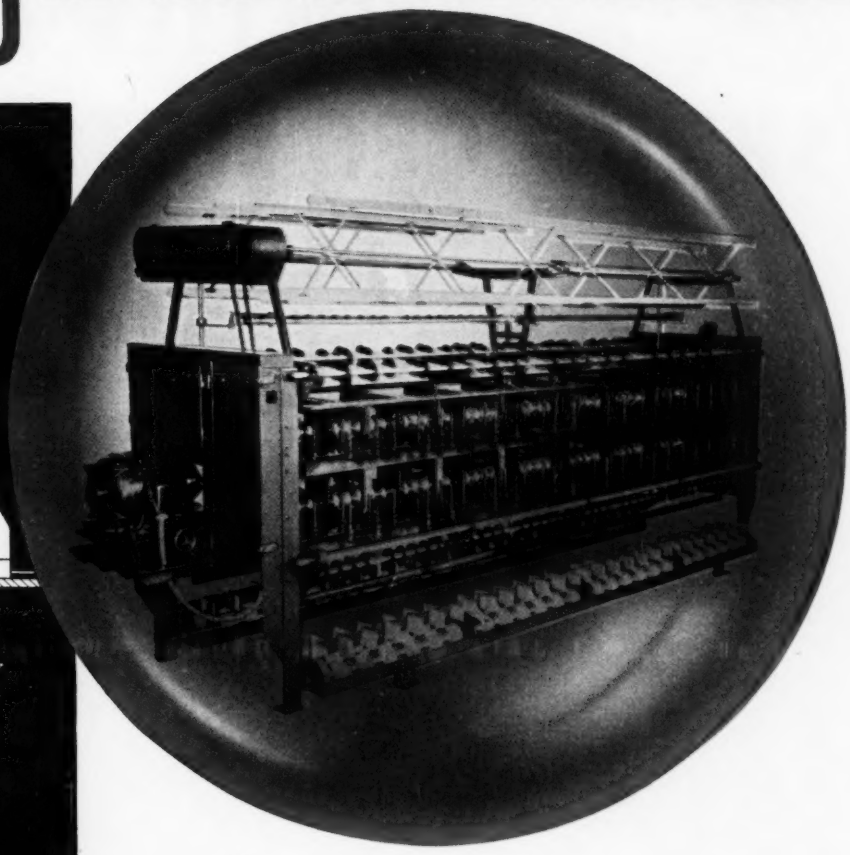
60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.

SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

"TOPS" IN TEXTILE APPLICATIONS



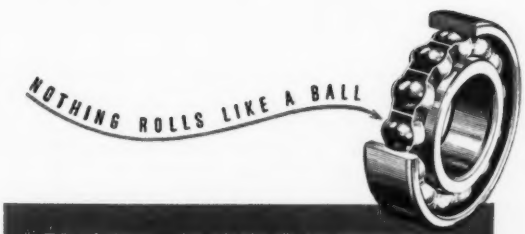


Arnold Rubber Covering Machines use two New Departure **ball** bearings in each spindle . . . reach speeds of 10,000 r.p.m. with only 5 h.p. needed for each 80-end machine.

High spindle speeds with low power requirements . . . high precision with low upkeep. These are some advantages New Departure **ball** bearings bring to Arnold Rubber Covering Machines.

Throughout the textile field, New Departures assure better, faster machine operation with lower power, lubrication and maintenance costs. And better-quality finished products result.

When you have textile equipment in the design stage, *talk with your New Departure engineer.* He'll be glad to help you get greater efficiency and economy in your bearing applications.



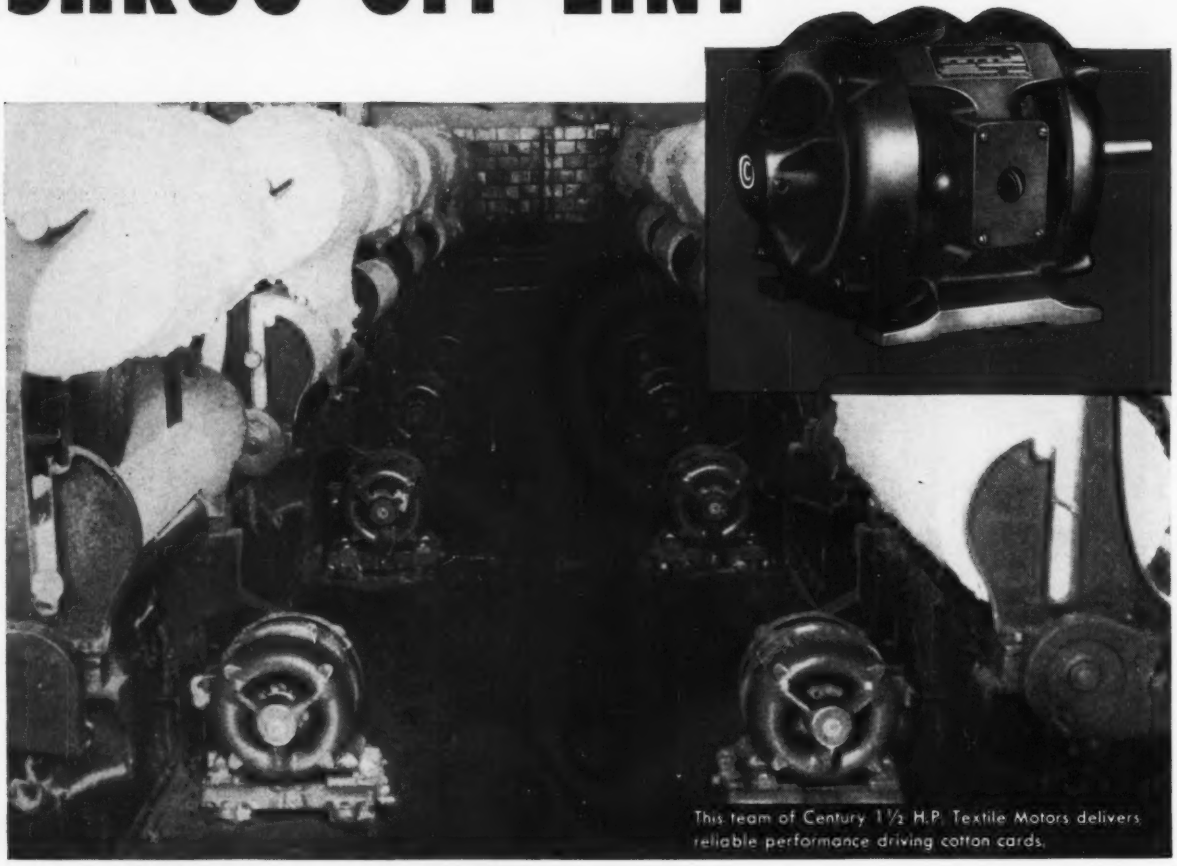
NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT
Plants also in Meriden, Connecticut, and Sandusky, Ohio
In Canada: McKinnon Industries, Ltd., St. Catharines, Ontario

 For more information, write direct or use Reader Service post card.

Performance Rated

Century TEXTILE MOTORS SHRUG OFF LINT



This team of Century 1½ H.P. Textile Motors delivers reliable performance driving cotton cards.

Job-Dependability Proved in Plants Like This

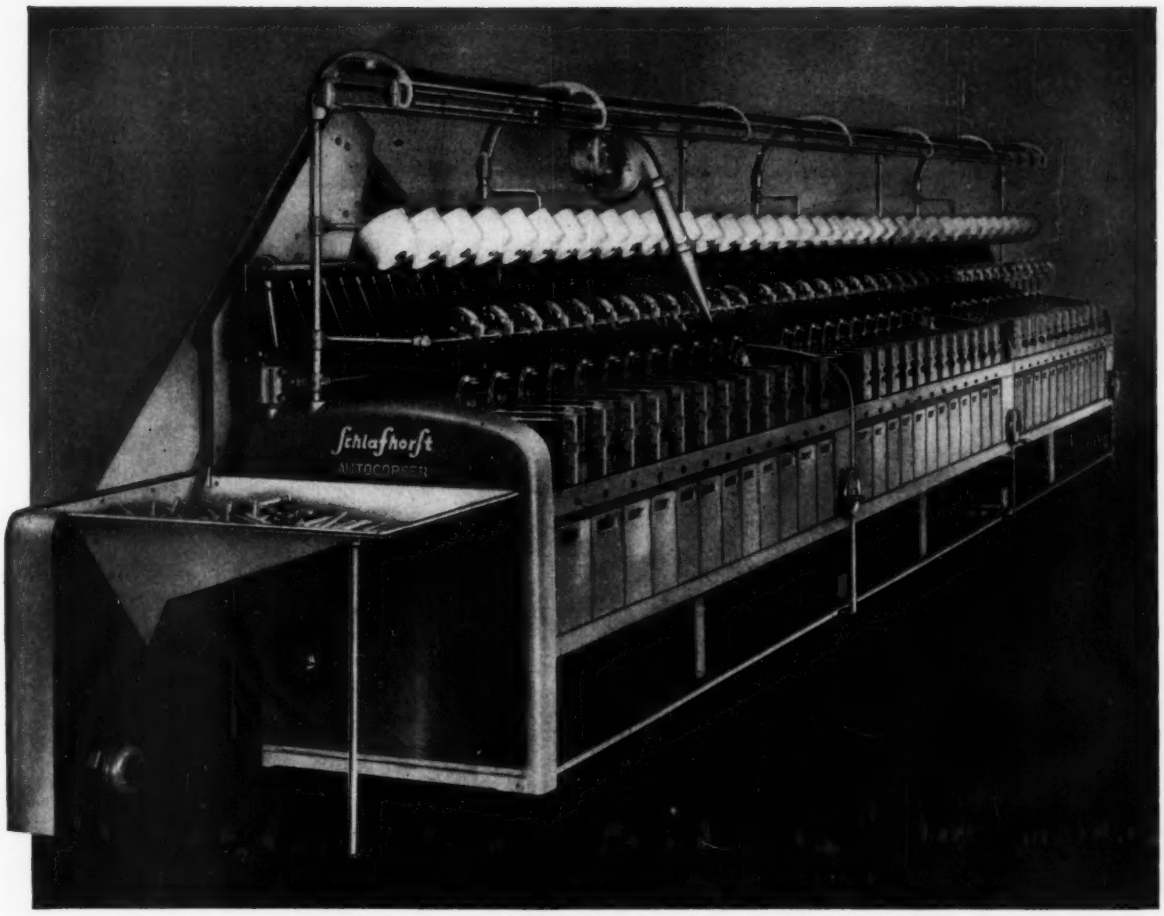
- Because of their ability to *"Shrug Off Lint"* and maintain normal operating temperatures, Century Textile Motors extend insulation life . . . deliver more dependable operating hours in your plant.
- Wide open, smooth-surfaced ventilating passages—together with strong air blast from integral cast aluminum rotor fans—keep vital motor parts free from lint.
- Specify Century Motors for new equipment and for replacement. Full information is readily available at your nearby Century District Sales Office or Distributor.
- Ask for Textile Motor Bulletin 14-193 Page 1. Other bulletins available on AC or DC Motors . . . ⅛ to 400 H.P.—Drip Proof, Splash Proof, Dust Proof, Explosion Proof.

CE 841

Century Selective Speed Drives...
1 to 150 H.P. Ask for Bulletin 11-1 Page 1.

CENTURY ELECTRIC COMPANY
1806 Pine Street, St. Louis 3, Mo.
Offices and Stock Points in Principal Cities

Century C MOTORS



The above illustration shows our fully automatic quiller "AUTOCOPSER".

It is equipped with rotary yarn guides that have no oscillating parts. Quilling speed is limited only by the quality of the yarn and tube material used. To meet the requirements of high speeds up to 12000 revs per minute, the machine is very substantially built. Each quilling head functions independently, entirely unaffected by automatic change of pirns or by stoppages caused by broken ends.

The special shape of the groove of the rotary yarn guide ensures firm winding at the apex of the conical yarn layers, without danger of damaging the yarn. The grooved guide drum is of wear-resistant material and runs in a single one-sided bearing. It follows the build of the quill, and thus simplifies attendance by making the quill easily accessible at every stage of its formation.

Manual servicing is confined to filling the magazines or hoppers (as the case may be) with empty tubes, taking care of occasional broken ends, and to creeling fresh packages. Attendance is reduced to a minimum and simplified throughout.

Quills are firmly held in position between a live centre and a dead one so as to run smoothly and without vibration even at highest permissible speeds.

A novel feeler device controls the advance of the yarn guide by means of a continually revolving threaded rod that is positively driven. The slightest contact between a wide but light feeler roll and the yarn body immediately engages the yarn guide feed with the negligible application of an infinitesimal amount of power. This is achieved by means of an exceedingly simple gearless shifting device developed for this special purpose. The sturdy yet extremely sensitive mechanism has the sole functions of (1) *controlling the point* at which the steadily-turning threaded spindle must provide the necessary feed and (2) the *duration of time* for which this feed is continued.

Moreover, a continual displacement of the yarn layers is obtained by suitably utilizing the alternating feed and retractive shifts.

Upon contact between yarn body and feeler roll, the required lengthwise movement of the yarn guide is obtained each time. Since the feeler roll turns without rubbing against the yarn body, the most delicate yarns can be pirned without damage, at the highest speeds. Control of feed by the above-mentioned shifting device results in perfect pirns.

W. SCHLAFHORST & CO., M. GLADBACH, GERMANY

Schlafhorst

 For more information, write direct or use Reader Service post card.

Tuffer
TRADE MARK

CARD CLOTHING

Trimmed to Give Full Carding Efficiency

The trimming operation in the manufacture of card clothing is a very important one. It must be RIGHT if top quality production is to be attained.

TUFFER Precision Trimming is one of the major reasons why TUFFER Card Clothing fits the cylinders so smoothly and does such a fine job.

The perfectly-trimmed sides of each TUFFER fillet fit snugly and properly against each other, forming a single unit of clothing that has every point in position . . . and with all the wires having a complete uniformity of height, pitch and angle.

For years hundreds of mills have reordered TUFFER Card Clothing time after time. It fully meets the requirements of those who want the best.

B-4

Manufacturers of Card Clothing since 1866

Tuffer

HOWARD BROS.

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Southern Plants: Atlanta, Ga., and Gastonia, N. C.

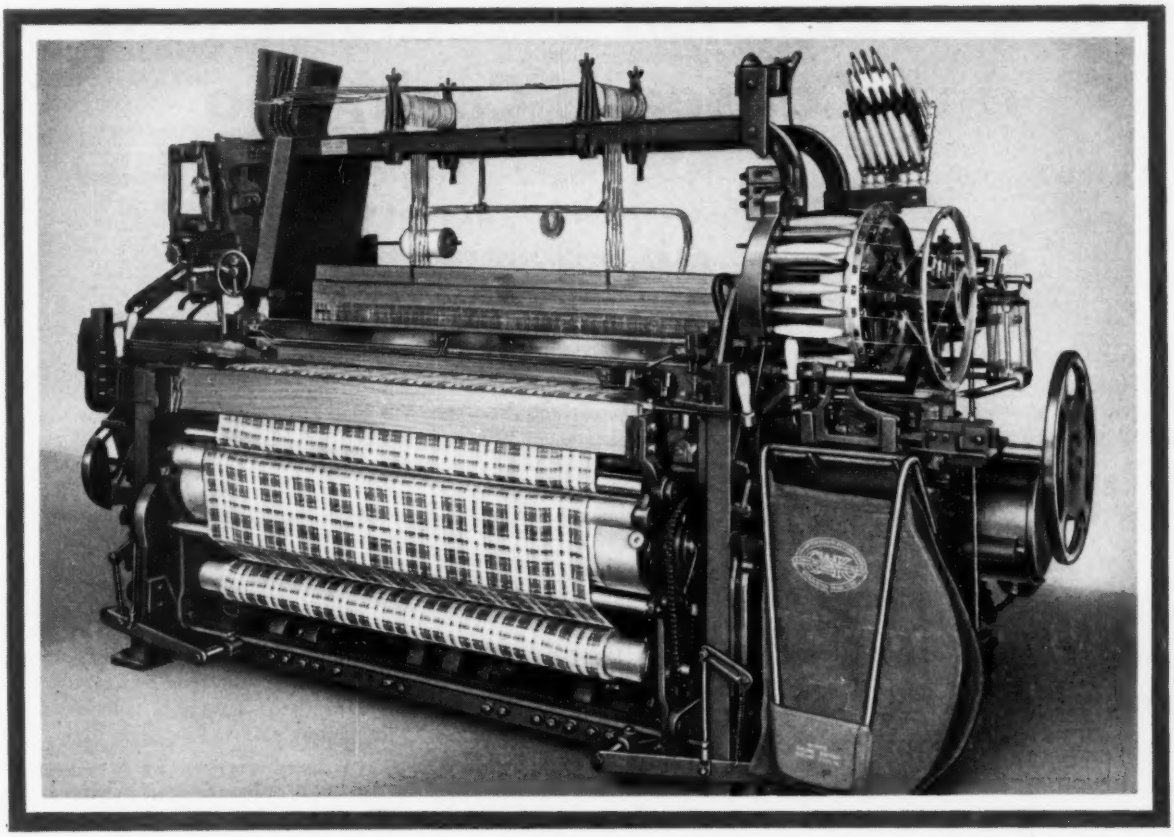
Direct Representation in Philadelphia, Pa., *and in* Canada

TUFFER PRODUCTS Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Re-covered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plants • Midgley Patented, and Howard's Special Hand Stripping Cards • Top Flat Chains

Here's what C&K's

New 4X1 Filament Loom

will do for YOU...



New C&K Multi-Purpose Looms give you 4 definite advantages:

1. Lower Maintenance Cost: Greater weight and rigidity of loom-frame means far less vibration. Many more parts are doweled into place . . . settings are retained. New cone picking motion cuts down-time and increases efficiency.

2. Increased Work Assignments: Better control of both filling and warp . . . together with decreased maintenance costs . . . should make possible an increase in work assignments.

3. Greater Flexibility: New M-P Looms are readily and widely convertible. Any motion may be applied to the basic frame . . . and all parts of all motions have been designed to fit onto this frame.

4. Better Quality of Cloth: With both filling and warp under better control, better quality of cloth is assured.

The loom shown above . . . for weaving 4-color filament dress goods automatically . . . is one of 5 new C&K Multi-Purpose Looms that give you greater flexibility and versatility than any weaving equipment built today. For details and prices, see C&K.

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are **WOVEN** Fabrics.

Crompton & Knowles LOOM WORKS

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Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

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LEESONA® REPORTER

Now! Your Mill Can Modernize and Conserve Cash, Too

By the Leesona Pay-As-You-Profit Program, Cost-Cutting Winding and Twisting Machinery Can be Yours at Once:

either *bought* . . . on the Leesona LONG TERM PURCHASE PLAN
or *rented* . . . on the Leesona LONG TERM LEASE PLAN

To Universal's constant engineering development (which you well know), we add advanced business thinking to help mills fill the need for new equipment to meet today's intense competition.

These Long-Term Purchase and Lease Plans are being presented to mill management and financial men. But everyone throughout a mill's organization will be interested to know that the latest winding and twisting equipment now can be easily obtained and put into operation. So that the important advantages of increased production and lowered operating-maintenance cost can be immediately enjoyed — while management is freed from heavy financial burden.

Write for explanatory bulletin if you wish more details. And remember these Plans when you feel any Universal machines might improve your operation.

Any Open-Wind Package — Perfectly Wound at Low Cost by the Roto-Coner®

New Features Step Up Performance, Save Time

Since the Roto-Coner was introduced, its now-famous Rotary Traverse has made history by insuring top quality yarn and uniform open-wind packages in the best form for later use.

Performing two functions — that of driving drum and traverse guide, it has eliminated the many moving parts of reciprocating guide machines. Thus, wear is reduced, and vibrationless operation results in better package production.

A choice of four groove patterns gives the correct angle of wind for the different package shapes shown here — so each package on a machine is produced under uniform winding conditions.

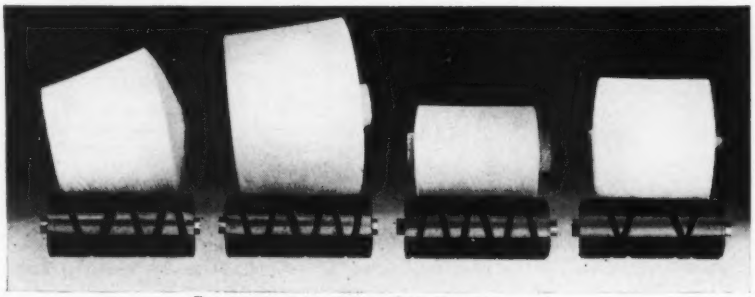
The Roto-Coner can be equipped to wind cotton, spun synthetics, wool, worsted, linen, and various blends.

These yarns can be wound on to:

- *Paper Cones and Tubes for Sales Yarn*
- *Wood Cones or Tubes for Twisting*
- *Wood Cones for Warping Creels*
- *Paper Cones for Knitting* — the famous Roto-Cone. Here the Roto-Coner assures cones of clean yarn with improved finish and perfect lay — ideal for knitting cones. Proper increasing taper and minimum number of winds mean free delivery to the knitting machine.
- *Perforated Tubes or Cones and Springs for Dyeing.* You get superior dyeing packages of uniform density because:
  1. Pressure is not added as package weight increases
  2. Hard ends are eliminated by action of Rotary Traverse grooves.

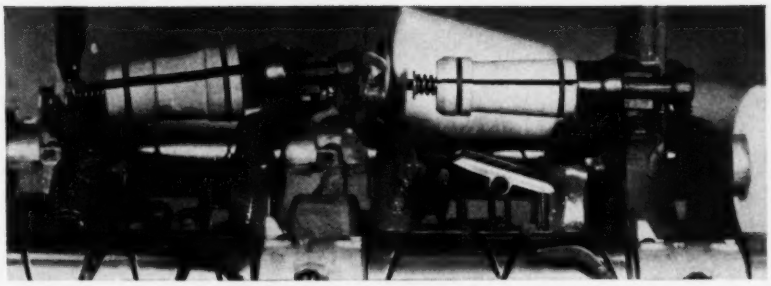
New, Quick-Doffing Arbors Cut Dye Package Handling Time

Self-contained, self-releasing, expandable arbors simplify winding dye pack-

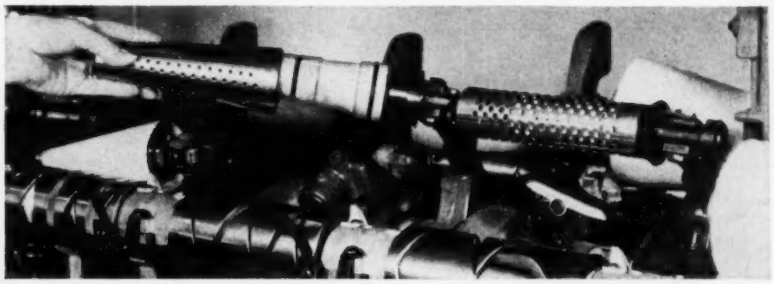


Groove arrangements of Rotary Traverse.

ages on metal cones, or dye tubes onto 1⅝" fiber, metal or wire mesh carriers. There are no arbor parts to remove. The operator merely swings out the arbor, which contracts so that the finished package slips off easily. Arbors run on live ball-bearing spindles which require lubrication only once a year.



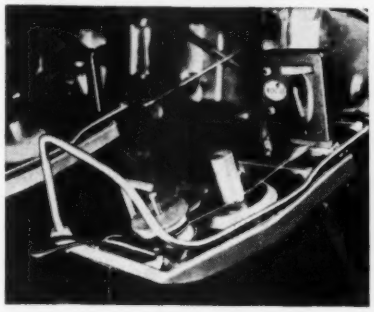
After Doffing, The Roto-Coner's new quick-doffing dye cone and dye tube arbor attachments are here shown on Universal ball bearing spindles.



During Donning, the dye cone is easily slipped onto the swung-out contracted arbor at left. At right, a dye tube is shown in position held firmly by its expanded arbor.

Micro-Set Slub Catcher Now Improves Yarn Quality

The new Micro-Set Slub Catcher (optional equipment), by its greater sensitivity, allows close slubbing with a wider opening. A thin, sharp, toggle-action blade swings against the anvil, effectively arresting the slub.



Designed to clear soft, torpedo slubs from long staple synthetic fibers and blends, it will also remove hard slubs, double spinning and piecings. The blade can be set to any opening up to 80 thousandths of an inch — now making it satisfactory for yarns ranging from fine to coarse counts such as coarse worsteds.

UNIRAIL® Uptwister Acceptance Continues to Grow

The outstanding advantages of this machine have brought higher yarn quality and better packages at faster speeds and lower costs to an ever-increasing number of mills during the past two years.

The Unirail with Headless Package Take-Up offers additional benefits, such as:

30% Less Donning and Doffing Time — because of the built-in, expandable headless package arbor.

No Waste from Take-Up Roll or Shaft-Roll Wraps — an Anti-Drum-Wrap device is a part of the arbor.

Better Packages at Lower Cost result from a unique stop motion that has more features than any other uptwister stop motion known.

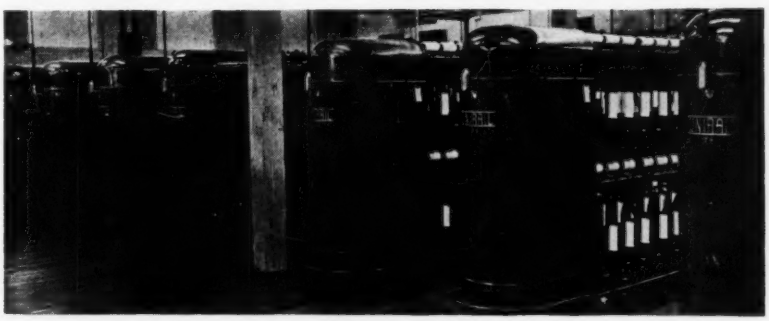
Yarn-Handling Time Cut to Minimum by Automatic Tailing Device and self-threading traverse guide.

Add all these up and you'll see why over 71,500 Unirail Uptwister spindles have been sold since 1952.

UNIRAIL Advantages Apply to DACRON*

The high speed of the Headless Package Unirail allows twist to be inserted in Dacron filament at a rate limited only by the characteristics of the yarn. Initial low twist from Dacron cheeses, to bind filaments, may be inserted on the Universal Model 10 Ring Twister. Further high twist may then be added on the Unirail Uptwister.

*Reg. T. M. for DuPont polyester fiber



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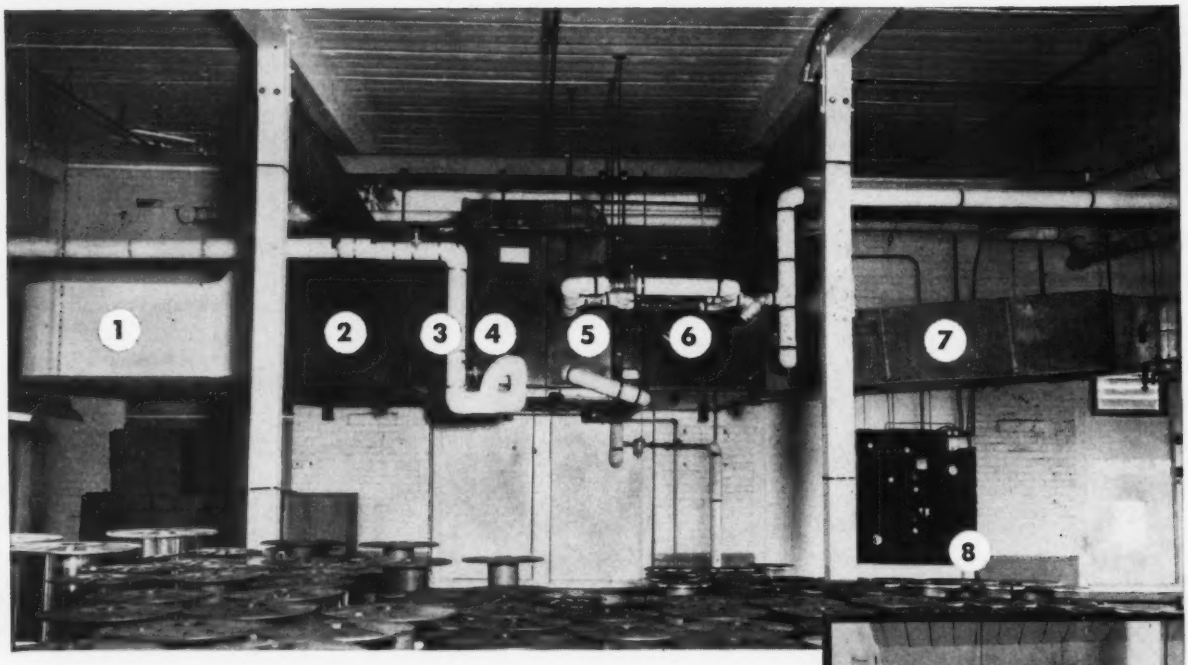
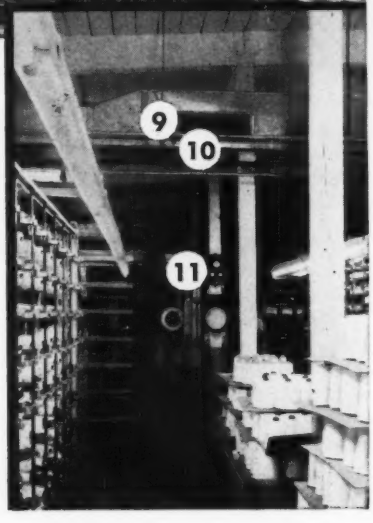
Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

23.3.18





Amco Unit Dry-Duct System installed at Raytric Knitting Mill, Inc., Bristol, Conn. Shown here are (1) fresh air inlet from outdoors; (2) plenum chamber, showing recirculated air louvers underneath; (3) air filter; (4) heating coils; (5) cooling coils; (6) fan; (7) air duct; (8) control panel; (9) outlet in air duct; (10) atomizer; (11) humidity control

Floor Area Limited?

This compact AMCO Unit Dry-Duct System may be your answer

An Amco Unit Dry-Duct System is composed of a self-contained air conditioning unit, distribution ducts and room atomizers. The unit itself is compact and can be installed overhead, out of the way, where it will not take up valuable mill floor space.

Here's how it operates. Automatically operated louvers introduce into the unit fresh air and recirculated air in proper proportions. The air is filtered, if desired, and then heated as required. This "dry" air is distributed to the working area through ducts. Humidification is provided by room atomizers located in front of each air duct outlet. Spent air and heat is exhausted automatically through vent louvers.

Amco Unit Dry-Duct Systems operate with evaporative cooling *only*, or with cooling coils, as in the featured installation at Raytric Knitting Mill, Inc.

The Unit Dry-Duct System is but one of the many types of air conditioning systems which Amco manufactures, engineers and installs in textile mills. Amco is in the unique position of being able to give you the widest possible choice between humidification, evaporative cooling (central station, dry-duct, or ductless type) or refrigeration, alone or in combination. Call an Amco engineer. You can rely on him to give you advice on the system best suited to your needs.

AMCO

AIR CONDITIONING SYSTEMS since 1888

Humidification • Evaporative Cooling (Ductless, Dry-Duct or Central Station) • Refrigeration

AMERICAN MOISTENING COMPANY, PROVIDENCE, R. I. • ATLANTA • BOSTON • CAMDEN • CHARLOTTE • AFFILIATED WITH GRINNELL COMPANY, INC

YARN DYED FABRICS—

the Royalty of Textiles

French Satin and Taffeta, about 1800, Museum of Art, R. I. School of Design.

WHEN this French satin and taffeta was made (about 1800), yarn dyed fabrics were literally "the royalty of textiles" — too expensive for the average woman.

Today they are *still* the royalty of textiles representing the ultimate in textile artistry and craftmanship, but modern mass production magic makes them available at a price everyone can pay.

Franklin Process is an important part of mass production magic. This service includes the largest package yarn dyeing capacity in the world, five strategically located plants, a Yarn Purchasing Department and a know-how gained from more than 40 years of experience. We can serve you promptly, efficiently and at competitive prices.

Franklin Process

COTTON YARN MERCHANTS & LARGEST PACKAGE DYERS IN THE WORLD

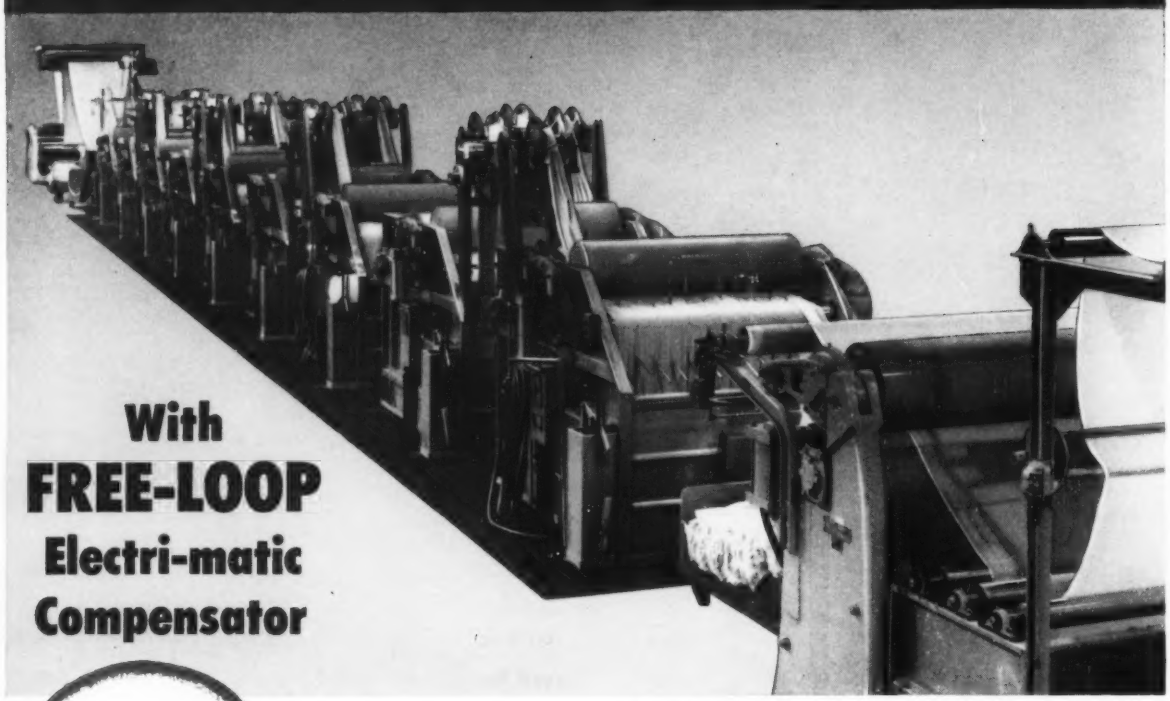
New York Representatives — 40 Worth Street

PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA • FINGERVILLE, S. C.

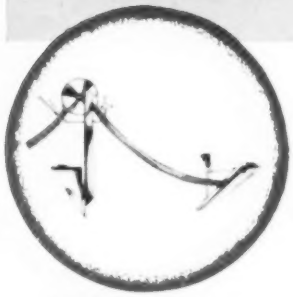
The Fleet Line

LAXLOOP CONTINUOUS WASHER

PAT. APPLIED FOR



With FREE-LOOP Electri-matic Compensator



FREE-LOOP Electri-matic Compensator, Bar Type — When two loops of cloth complete a low energy electrical circuit by coming in contact with two metal bars, corresponding tubs are synchronized.

FEATURES

A flexible vari-speed machine — stainless steel throughout.

Continuous washing and/or neutralizing of woolens, worsteds or blends at variable speeds.

Fully synchronized from tub to tub, giving tensionless fabrics throughout machine.

FREE-LOOP Electri-matic Compensator (patent applied for) controls DC drive for full automatic control.

Pneumatically operated rubber squeeze rolls.

Safety knock-offs prevent accidents to operators and materials.

Incorporates every device for automatic control of all elements involved in operation.

Positive counter-current flow, with constant uniform pre-determined liquor level in each tub. Made possible by R&L stainless steel flooded suction low head pump and adjustable weirs.

ADVANTAGES

Efficient high speed washing for all types of fabrics.

Uniformity piece to piece and set to set.

Extremely versatile, readily accessible, easy to maintain.

Considerable savings in labor, economy in water consumption and cloth handling.

RIGGS AND LOMBARD INC.

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Harold A. Zayotti, Jr., P. O. Box 125, Riverton, N. J. • H. A. Mott Co. Limited, Brantford, Ontario, Canada

Our Wool Oil Service has proved so successful

We'll Stick Our Neck Out—

To Guarantee You Definite Benefits in Writing!

Yes, as part of our wool oil service, we *put in writing* the benefits you will receive! This exclusive service—the most complete offered by the industry—includes...

Scientific Analysis of your mill operations by a Socony-Vacuum Engineer.

Complete Engineering Report with recommendations of correct wool oils.

Proved Products that meet desired degrees of scourability and discoloration resistance.

Laboratory Service where tests are made of mill samples to control performance on the job.

Progress Reports of benefits achieved, plus recommendations for further improvements.

Call your Socony-Vacuum representative for further details!

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process products

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26 Broadway, New York 4, N. Y.,
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MAGNOLIA PETROLEUM CO.,
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Still on Top!

with the many exclusive performance features that have made

ECLIPSE BOBBIN HOLDERS

THE FAVORITE!

The many exclusive features built into the Eclipse Bobbin Holder have made it the favorite of many leading textile organizations. They have found in actual operation that the Eclipse Bobbin Holder is outstanding in every way, and that the Eclipse reputation for basic quality and goodness is well deserved. If you are interested in modernizing your present plant equipment, you will surely want the finest—and the finest means Eclipse. Investigate today by writing or calling the Eclipse Machine Company direct.

These Features Mean Eclipse Superiority

1. Completely replaces wooden skewers.
2. Ball bearings minimize friction, resulting in uniform quality of roving.
3. Permits less twist. Tests indicate yarn of more even texture.
4. Creel boards easily cleaned. Overhead suspension leaves open creels. Blowers more effective.
5. Better spinning of spun rayon.
6. Easier creeling; less physical effort and fewer motions required.
7. Improved brake attachment prevents overrun and backlash.
8. Now cadmium plated and stainless steel balls more rust resistant.
9. Time-tested product—holders in operation for over ten years.
10. Easy to install; practically no upkeep.

Export Sales: Bendix International Division, 205 East 42nd St., N. Y. 17, N. Y.

ECLIPSE MACHINE DIVISION of Bendix AVIATION CORPORATION

ELMIRA, NEW YORK

A AVAILABILITY
S SERVICE
Q QUALITY

you get all three with

B&W CARBON STEEL

SEAMLESS

MECHANICAL TUBING

A AVAILABILITY

Buying convenience through a single source of hot-finished and cold-finished carbon steel tubing, produced in a wide range of grades and sizes.

S SERVICE

You can save through the dependable assistance of B&W Regional Representatives and qualified distributors, trained to help solve fabrication problems and to assist in tube selection.

Q QUALITY

Mechanical properties, machinability, tolerances and surface finishes combined for ease of fabrication in your specific application.

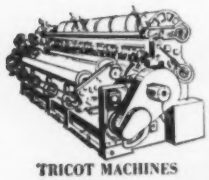
remember A S Q *is meant for you.*

B&W SEAMLESS and WELDED TUBES

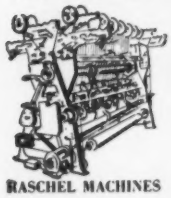
THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing

TA-4048 (CSM)

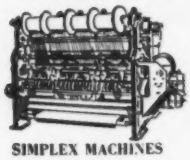
The Reiner Line:



TRICOT MACHINES



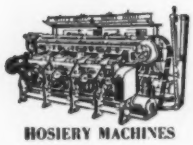
RASCHEL MACHINES



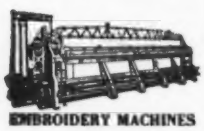
SIMPLEX MACHINES

WARPERS

CREELS



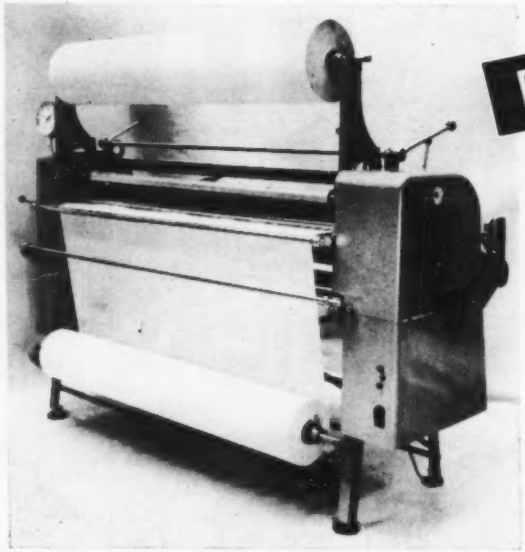
HOSIERY MACHINES



EMBROIDERY MACHINES

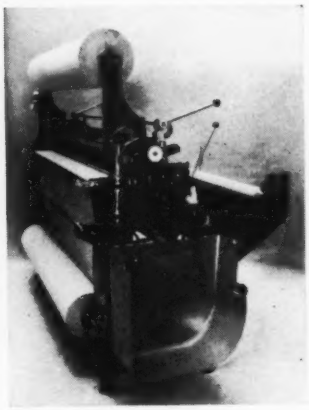
Ready spare part service available for all. Reiner equipment.

Announcing **"Rabo 54" PERMANENT Pleating Machine**



Three views of the "Rabo 54" Permanent Pleating Machine.

For processing woven and knitted fabrics made of artificial and natural fibers, such as wool, cotton, rayon, acetate, nylon, orlon, linen and other yarns.

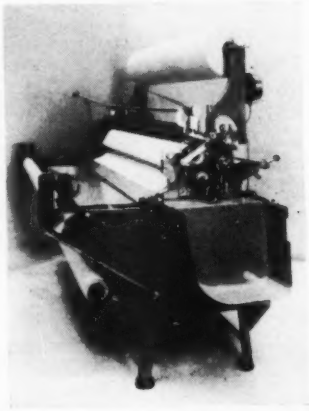


This machine—working width 59½ inches—makes flat or knifed pleats and box pleats in a limitless variety of designs and patterns.

Sliding guides facilitate the pleating of several narrow strips simultaneously.

Other Features Include:

- Control of temperature by patented thermionic system.
- Automatic rewinding arrangement of pleated fabric.
- Automatic paper feed.
- Water-cooled outlet table.



CRYSTAL-PLEAT MACHINE

A smaller model—20 inches in working width—makes crystal pleats, with or without bow attachment.

Write for details or a demonstration—or bring some of your cloth to our plant at Weehawken and pleat it on this machine.

Detailed Catalog upon request.

1903 50th Anniversary 1953

ROBERT REINER INCORPORATED

FOUNDED IN 1903

10 MINUTES FROM TIMES SQUARE

Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

550-564 GREGORY AVENUE, WEEHAWKEN, NEW JERSEY

For more information, write direct or use Reader Service post card.

To improve wool piece-goods scouring four ways

there's nothing like
Nacconol
AMERICA'S LEADING SYNTHETIC DETERGENT
for "SWEET", ODOR-FREE GOODS
FASTER OPERATION AT LOWER TEMPERATURE
COMPLETE REMOVAL OF FIBER LUBRICANTS AND SOIL

Synthetic detergents differ widely in chemical composition and method of manufacture. Some are good wetting agents but mediocre detergents. Others emulsify but have low sequestering power. Still others function only in a narrow pH and temperature range.

Nacconol — the "balanced detergent"— gives you the best combination of wetting, washing, emulsifying, dispersing, foaming in hot or cold solution at any pH. For best results, use ½ to 1% solution Nacconol plus suitable builder.

Available in flake, powder, liquid or bead form. Phone our nearest office for current prices.

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N.Y. • BOwling Green 9-2240

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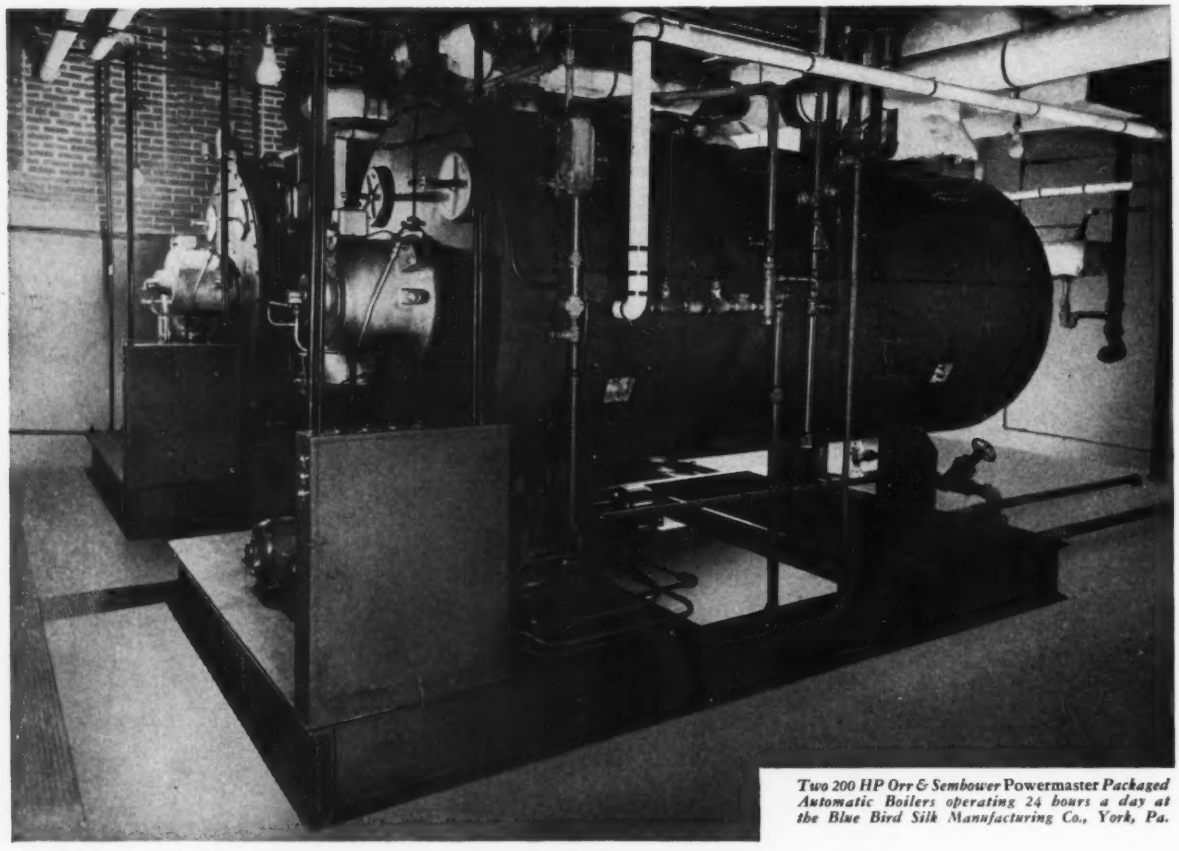
*Reg U S Pat Off

Allied Chemical

IN TEXTILE MILLS...



Two 200 HP Orr & Sembower Powermaster *Packaged Automatic Boilers operating 24 hours a day at the Blue Bird Silk Manufacturing Co., York, Pa.*

Powermaster® Performance Pays Off

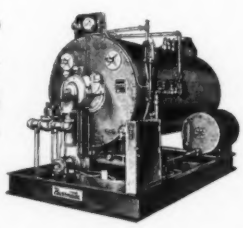
STEAM COSTS DOWN 20% — negligible maintenance. That's the two-year performance record of these two *Powermaster* Packaged Automatic Boilers operating round-the-clock at the Blue Bird Silk Manufacturing Company, York, Pa.

In addition to the cost-saving advantages, these units provide dryer, higher quality steam for processing and heating than the coal-fired boiler they replaced. Burning No. 6 Bunker C oil, they produce 13,800 pounds of steam per hour. And *Powermaster's* Voriflow burner design assures top straight line efficiency when operating between 30% and 100% of capacity.

Check these reasons why *Powermaster* is today's best buy for textile mills, schools, hospitals, industrial plants and all types of buildings: Cost-saving installation, space-saving compactness, dependability, fast steaming, hospital-clean operation, maintenance-saving accessibility, fully automatic operating and safety controls and smokeless combustion.

Find out why satisfied users all over America are saying, "Steam costs go down where *Powermasters* go in". Send for latest descriptive bulletin.

O-S
Powermaster®
PACKAGED AUTOMATIC BOILERS
In sizes to 500 HP; pressures to 250 psi.



ORR & SEMBOWER, INC. • Established 1885 • **Morgantown Road, Reading, Penna.**

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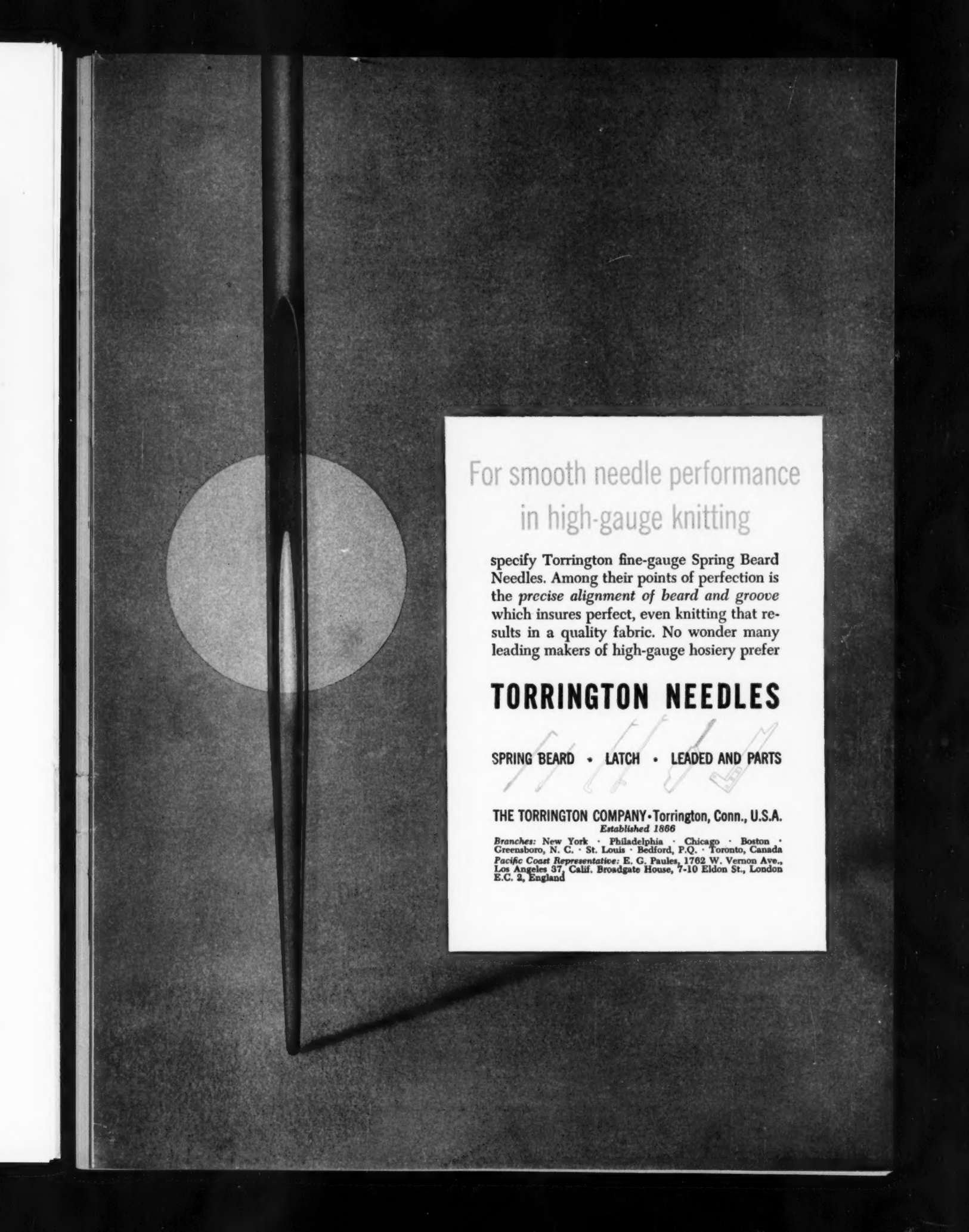

For smooth needle performance
in high-gauge knitting

specify Torrington fine-gauge Spring Beard Needles. Among their points of perfection is the *precise alignment of beard and groove* which insures perfect, even knitting that results in a quality fabric. No wonder many leading makers of high-gauge hosiery prefer

TORRINGTON NEEDLES

SPRING BEARD • LATCH • LEADED AND PARTS

THE TORRINGTON COMPANY • Torrington, Conn., U.S.A.
Established 1866

Branches: New York · Philadelphia · Chicago · Boston · Greensboro, N. C. · St. Louis · Bedford, P.Q. · Toronto, Canada
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News about

B. F. Goodrich Chemical *raw materials*

IDEAS FOR IMPROVING *Cotton* PRODUCTS

Here's a quick reference list of B. F. Goodrich Chemical materials designed to improve cotton products. Used successfully in many applications they include binders, processing size, filler, finish treatments, colors and other materials. They may give you ideas for improving or developing more saleable cotton products. For helpful technical information, please write Dept. HZ-3, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

Check this list!

Hycar
Reg. U. S. Pat. Off.
Latex

FUNCTION

- . . . permanent warp yarn size to provide abrasion resistance during weaving; and wear resistance and color fastness to finished fabric.
- . . . after-treatment to improve wearing qualities and to provide a full hand.
- . . . carrier for specialty active agents such as fungicides and flame proofing chemicals.
- . . . binder for waxes and metallic salts used for water repellence or stain resistance.
- . . . with urea-formaldehyde resin to prevent deterioration of fibers when large amounts of U-F resin are used for crease and wrinkle resistance.
- . . . binder for pigment coloring and printing.
- . . . binder for non-woven fabrics.
- . . . after-treatment to reduce crock particularly with red naphthol dyes.

Geon
Reg. U. S. Pat. Off.
Polyvinyl Latex

FUNCTION

- . . . filler to provide stiffness.
- . . . carrier for specialty active agents such as fungicides and flame proofing chemicals.
- . . . binder for waxes and metallic salts used for water repellence or stain resistance.
- . . . binder for pigment coloring and printing.

B. F. Goodrich Chemical Company

A Division of The B. F. Goodrich Company

GEON polyvinyl materials • HYCAR American rubber • GOOD-RITE chemicals and plasticizers • HARMON colors

Bonded

with GREATER GRIPPING AREA *for* GREATER STAYING POWER

Bonded directly to the cast iron core with adhesives developed exclusively for this purpose, and with effective bonding surface doubled by micro-threading the core . . . Stowe-Woodward roll coverings *stay put* under the most severe use. Stowe-Woodward's direct bond avoids the bonding failures which result from the stress and strain of extremes of pressure and temperature. It's an important point, because the qualities which make Stowe-Woodward rubber covered rolls outstanding would be valueless if the covers didn't stick.

If this has ever been a problem in your mill, it's time you called in your Stowe-Woodward sales engineer.

S-W INC.

STOWE-WOODWARD, Inc.

Craftsmen in rubber

NEWTON UPPER FALLS 64, MASSACHUSETTS

Keep them spinning clean and free

with Gulfspin

Gulfspin works three ways to keep spindles clean. First, it's oxidation stabilized to resist sludge formation. Second, Gulfspin prevents contaminants from depositing on spindle parts. Third, Gulfspin provides effective protection against rust, especially important in cast-iron bolsters where rusting causes bolster wear.

Because deposits are not a problem with Gulfspin, spindle vibration is kept to a minimum and dampening devices function normally.

And you reduce power costs with Gulfspin! Ordinary spindle oils often thicken after a few months of service, resulting in about one watt per spindle increase in power consumption. Not so with Gulfspin! This outstanding oil shows no increase in viscosity after many months of service.

Won't you give us a chance to prove the advantages of Gulfspin on at least one of your frames. Write, wire, or phone your nearest Gulf office and ask a Gulf Sales Engineer to call.

GULF INDUSTRIAL LUBRICATION

Gulf Oil Corporation • Gulf Refining Company

Gulf Building, Pittsburgh 30, Pa.

For more information, write direct or use Reader Service post card.

HUNTER *equipment safeguards quality*

at THE UNITED PIECE DYE WORKS

The United Piece Dye Works . . . one of the foremost dyers, finishers and printers of synthetic fabrics . . . preserves its fine reputation by maintaining continuous quality control through the use of efficient, dependable equipment.

It is only natural, therefore, that in quality-conscious mills Hunter "plus production" equipment is preferred for the superior finishing of ***synthetics, blends, cottons*** and ***woolens.***

At The United Piece Dye Works and other leading mills throughout the world Hunter Dyeing Machines are used to achieve consistent quality production. UPDW's Charleston plant is equipped *exclusively* with Hunter Model A Dye Becks . . . all with the new, patented NO/LAP Reels. Complete, detailed information in BULLETIN PDM.

plus production

+ efficient operation of modern equipment
+ less down time of equipment
+ quick, easy repair . . . rapid parts delivery

JAMES HUNTER

MACHINE COMPANY

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

BUILT BY HUNTER ...IT'S DEPENDABLE

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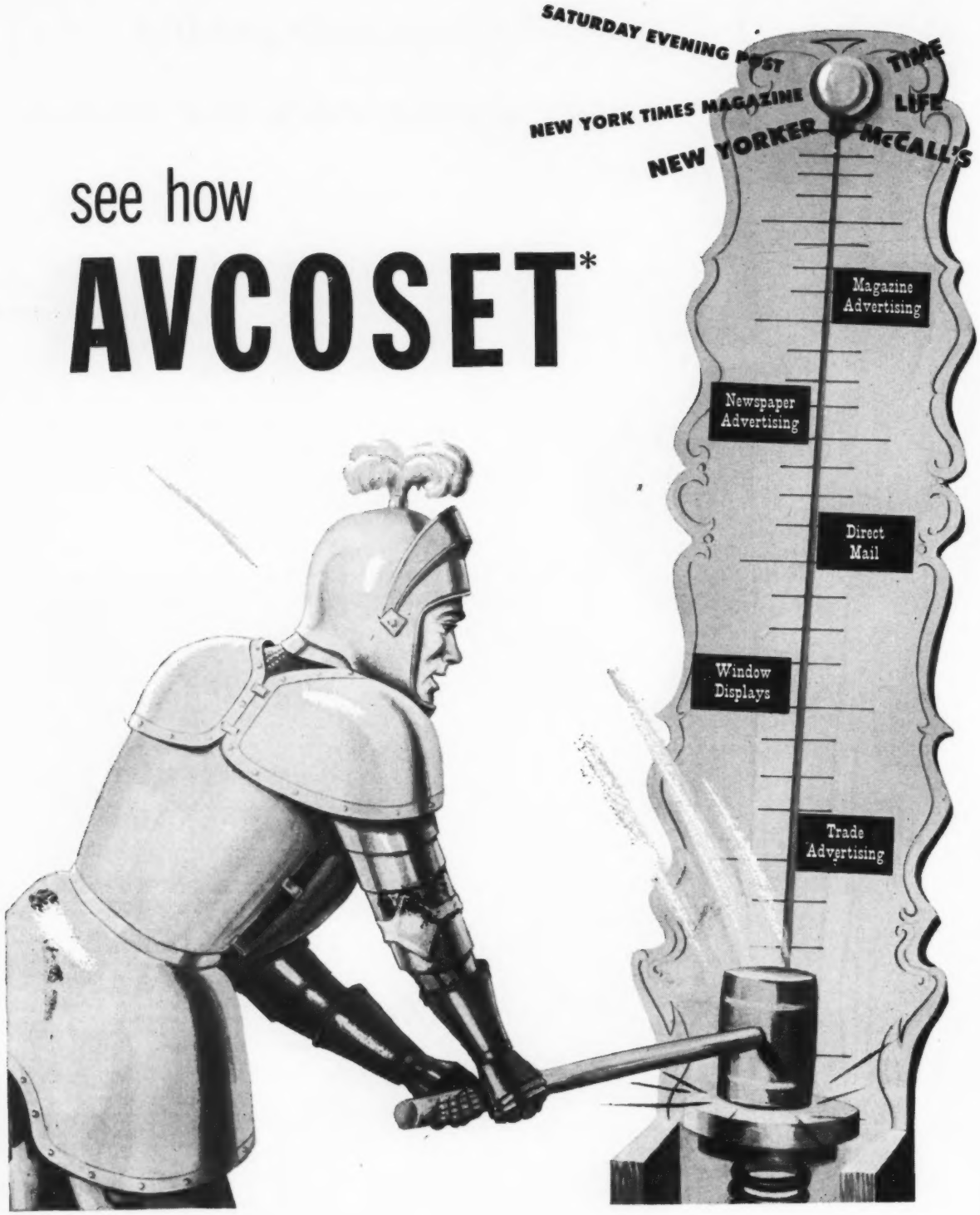
see how

AVCOSET*



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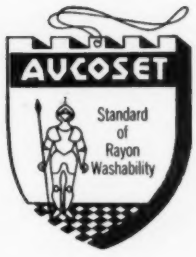
is hammering home today's greatest washability story!



Last season, Avcoset's first consumer campaign really made the public sit up and take notice. It was colorful, it was commanding, it was *big*. But – it was only the beginning! This Spring, American Viscose hits the nail on the head with one of the most carefully-aimed and concentrated promotions ever to back up any fabrics at any time. We're advertising Avcoset fabrics in more of America's most influential, most widely-read magazines – reaching the terrific total of nearly 80,000,000 people!

All this – plus Avcoset newspaper advertising tying in with stores across the country that will reach *millions more!*

We're really pounding across the Avcoset story: the miracle of permanent rayon washability – of shrinkage-control and color-fastness that's in the fabric for life!

Take advantage of this powerful Avcoset advertising. Retailers: promote Avcoset rayon fashions in your ads and windows. Mill-owners, converters or makers: be sure to include Avcoset rayons in your plans. Your customers will be calling for them!

AMERICAN VISCOSE CORPORATION

AMERICA'S FIRST PRODUCER OF MAN-MADE FIBERS • 350 FIFTH AVENUE, NEW YORK 1, N. Y.
RAYON, ACETATE, VINYON,† FILATEX® †TMC ● CCC

●Registered Trade Mark of American Viscose Corp. for Fabrics and Cellulose Ethers.

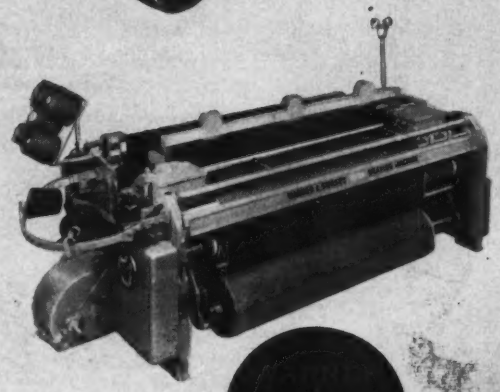
"Mainspring" that keeps weaving profits mounting!

PICKING LEVER AND TORSION ROD
of the NEW
WARNER & SWASEY-SULZER
WEAVING MACHINE

Here is the "mainspring" behind the faster rhythm heard in many modern weaving rooms today—in the production-minded mills using new Warner & Swasey-Sulzer Weaving Machines. It's the revolutionary new picking lever and torsion rod that propels up to 240 shuttles per minute across the machine—speeding the production of fine fabrics, cutting costs, building profits.

It will pay you to investigate the many operational advantages and cost-cutting features of these new machines. Call in your nearest Warner & Swasey Field Representative for all the facts.

Small steel shuttles are driven at high speed through the shed by this short picking lever. Energy is built up in the lever by twisting the torsion rod through cam action in the picking box, and locking it in its loaded position. Four times a second, a shuttle is placed in firing position and the driving force released—shooting the shuttle across the machine. Driving force is easily adjusted for varying widths of cloth and weight of filling. These parts, like all vital moving parts of this precision machine, are made of high strength alloy steels, making higher operating speeds possible.



SALES OFFICES

Main Office and Factory: **5701 Carnegie Ave., Cleveland 3, Ohio**
61 Rivulet St., North Uxbridge, Mass. **6910 Market St., Philadelphia, Pa.**
Candler Building, Atlanta, Ga. **1820 Browning Ave., Charlotte, N. C.**

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY MACHINE TOOLS, TEXTILE MACHINERY, CONSTRUCTION MACHINERY

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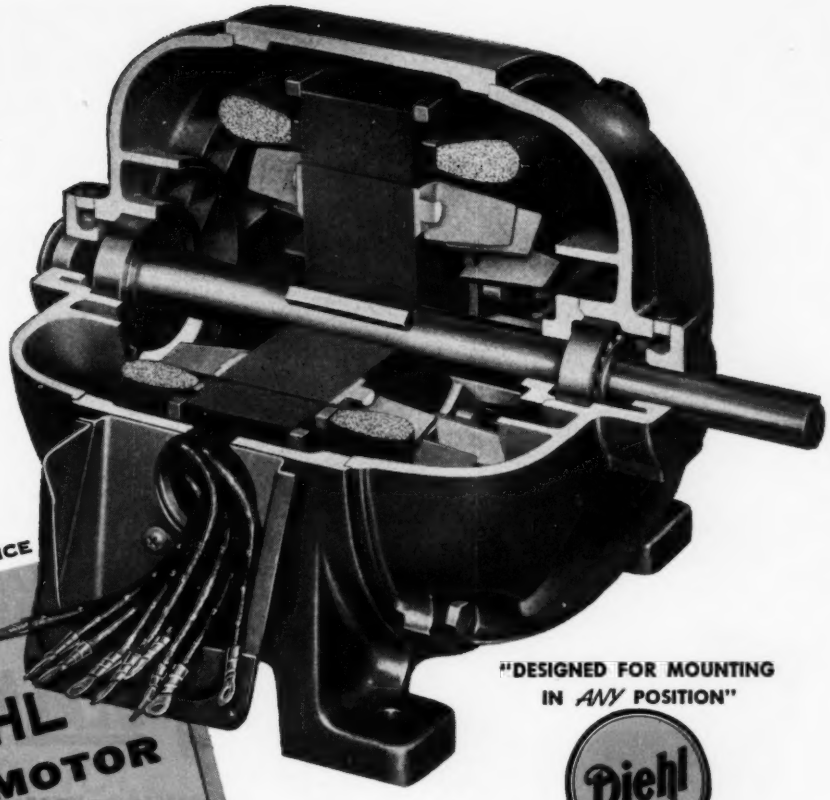

TOPS IN QUALITY
COMPETITIVE IN PRICE

SPECIFY THE New DIEHL TYPE "D" MOTOR

"DESIGNED FOR MOUNTING IN *ANY* POSITION"

Diehl

...here's 12 reasons why

- Most Advanced Slot Insulation
- Machine Fitted Stator
- Rotor Keyed to Shaft
- New High Dielectric Insulated Stator Windings
- Permanently Numbered Leads
- Conduit Box, An Electrician's Delight
- Centrifugally Cast, High Density Rotor Windings
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- New Pre-lubricated Heavy Duty Ball Bearings
- Locked-in Ball Bearing
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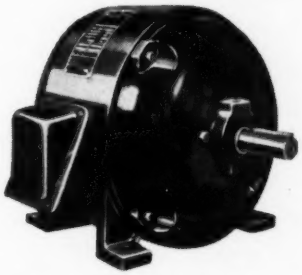
- Extra Strong Cast Iron Frame



Designed and engineered for more efficient performance. Smaller in size, lighter in weight and quieter in operation.

Consult our engineers before writing your specifications and get the benefit of 68 years of experience in the design and manufacture of general and special purpose motors

Diehl motors will still be available in old NEMA Standard frame sizes for interchange and replacement.

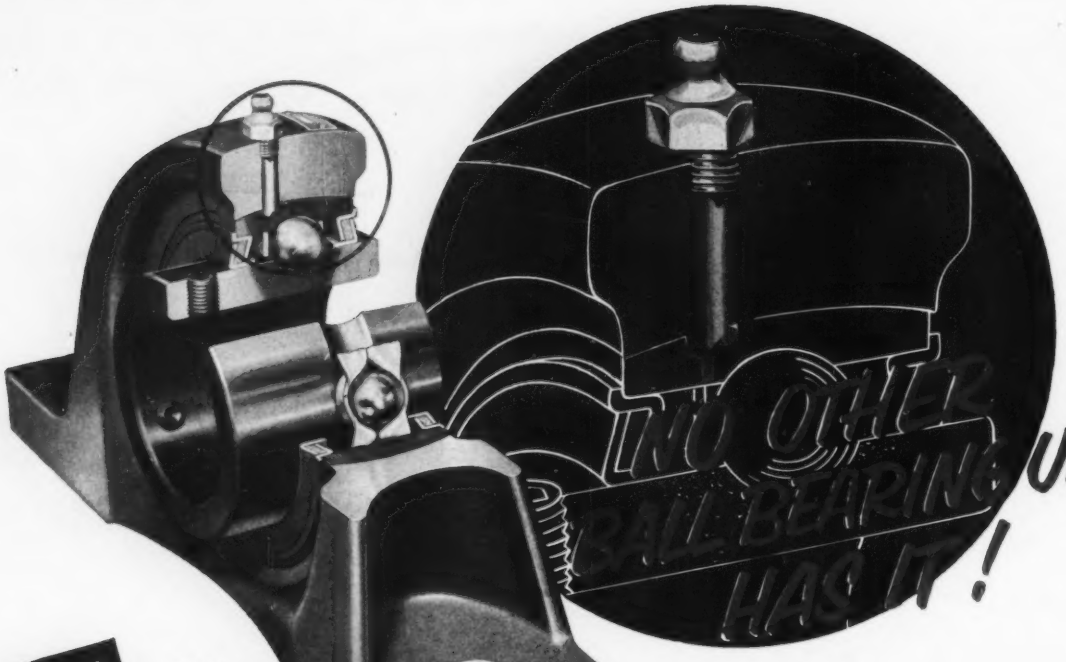
DIEHL MANUFACTURING COMPANY
Electrical Division of THE SINGER MANUFACTURING COMPANY
Finderne Plant, SOMERVILLE, N. J.

Please send me the following bulletins

☐ New Type "D" Motor Bulletin No. TW3304
☐ Consolidated Catalog & Price List No. TW3310

Name_____
Company_____
Street_____
City_____ State_____

INTEGRAL AND FRACTIONAL HORSEPOWER MOTORS ARE AVAILABLE IN A WIDE RANGE OF TYPES AND SIZES



Write for your copy of SEALMASTER Catalog 454.

SEALMASTER

BALL BEARING UNITS

SEALMASTER BEARINGS

A DIVISION OF STEPHENS-ADAMSON MFG. CO.
10 RIDGEWAY AVENUE, AURORA, ILLINOIS

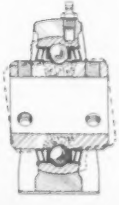
Features like the patented *Locking Pin* and *Perimeter Dimple* have kept SEALMASTER Bearing Units *well ahead* of demands for high speed production in the current trend toward automation. SEALMASTER leadership has set a new standard for low-cost in bearing maintenance and maximum bearing efficiency. It will pay you to consider the advantages of SEALMASTER Bearings in the machines you buy or build.

FACTORY REPRESENTATIVES AND DEALERS IN ALL PRINCIPAL CITIES

SEALMASTER'S *Patented* LOCKING PIN & PERIMETER DIMPLE

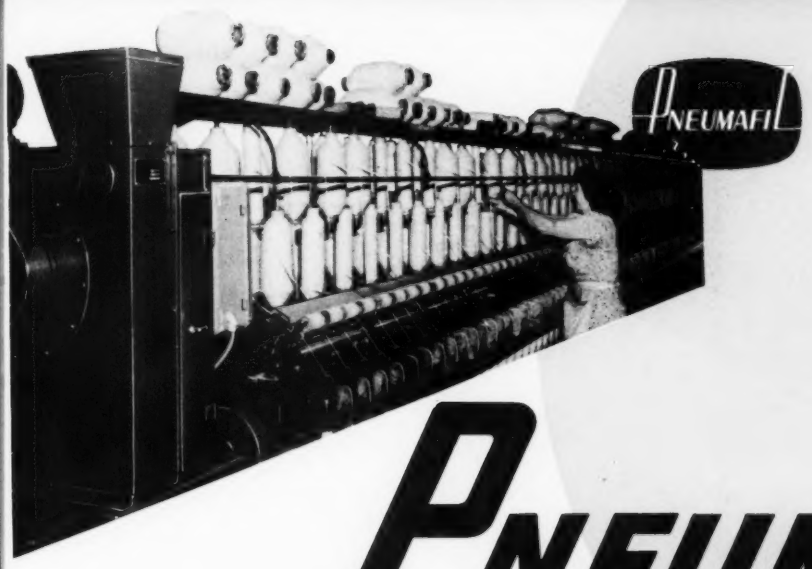
Rotation of outer race ring in the bearing housing is prevented . . . **eliminating housing wear.**

Locking Pin locates the lubricating hole within the *Dimple* on the outer race ring and has a V-shaped groove at each end to allow a free flow of grease from the grease fitting to the sealed bearing chamber . . . **assuring positive lubrication.**



Locking Pin and *Dimple* allow several degrees of misalignment in any direction. **Misalignment of shaft cannot interfere with the effectiveness of the seal.**

For more information, write direct or use Reader Service post card.



PNEUMAFIL*

pays you more than

ONE DOLLAR PER SPINDLE PER YEAR

PNEUMAFIL* . . . lowers cost through increased spinner assignments, fewer ends down, reduction in waste, and reduction in cleaning . . . Improves quality because the "vacuum cleaning" effect provided at each end collects free fiber and fly released in the area — greatly reducing slubs and gouts — and completely eliminates doublings . . . Saves spinnable fiber by as much as one bale per frame per year because 50% of the free fibers are collected, air opened, and kept clean for re-use in the regular mix without "waste machine" processing.

Pneumafil* is a MUST for modernizing spinning and is standard equipment on new frames. More than 10,000,000 Pneumafil* equipped spindles are now producing more and better yarn for less money. Whether spinning cotton, wool, worsted, or synthetics, Pneumafil equipment pays for itself through savings and provides an annual return of one dollar for each two invested . . . that is why . . .

PNEUMAFIL* is the best investment you can make.

PNEUMAFIL CORPORATION

CHARLOTTE 8, NORTH CAROLINA

Sales Offices: Needham Heights, Massachusetts—Atlanta

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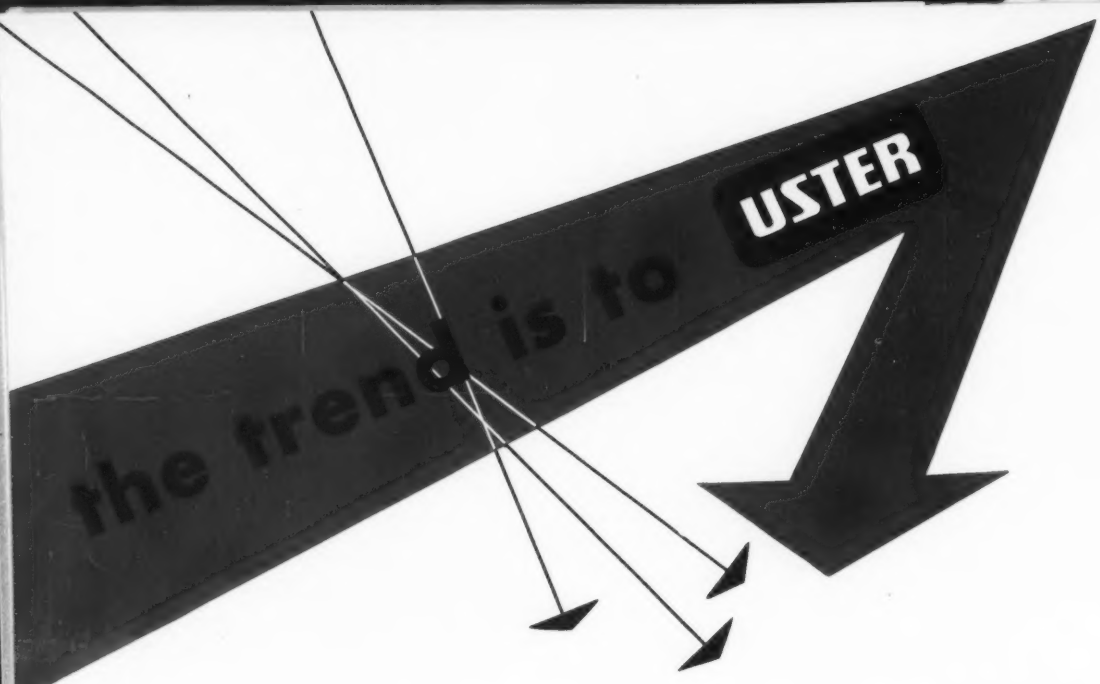
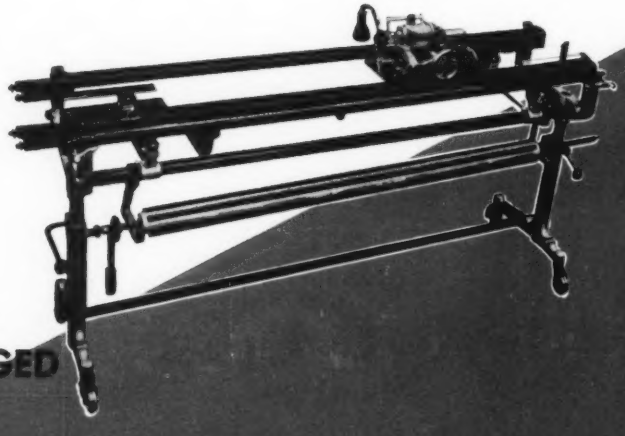
Copyright 1954, Pneumafil Corporation





200 MILLS IN U. S. ALONE HAVE CHANGED TO USTER...

BECAUSE . . . the Uster proves to be the fastest . . . most efficient . . . versatile tying machine built . . .

Uster • Ties entire warp in one "bite" • Second warp prepared . . . while first being tied, therefore tying head in continuous operation • Less loom down time • Better tying efficiency • Straighter and better running warps • Ties portable at the loom or "stationary" . . . with equal efficiency • Eight standard width tying frames from 47" to 118".

As originators of the "Uster System", the Uster Corporation offers . . . a tried and proven machine . . . years of experience . . . better know-how . . . good delivery . . . excellent operator training . . . and dependable service by factory trained technicians . . . that is why . . .

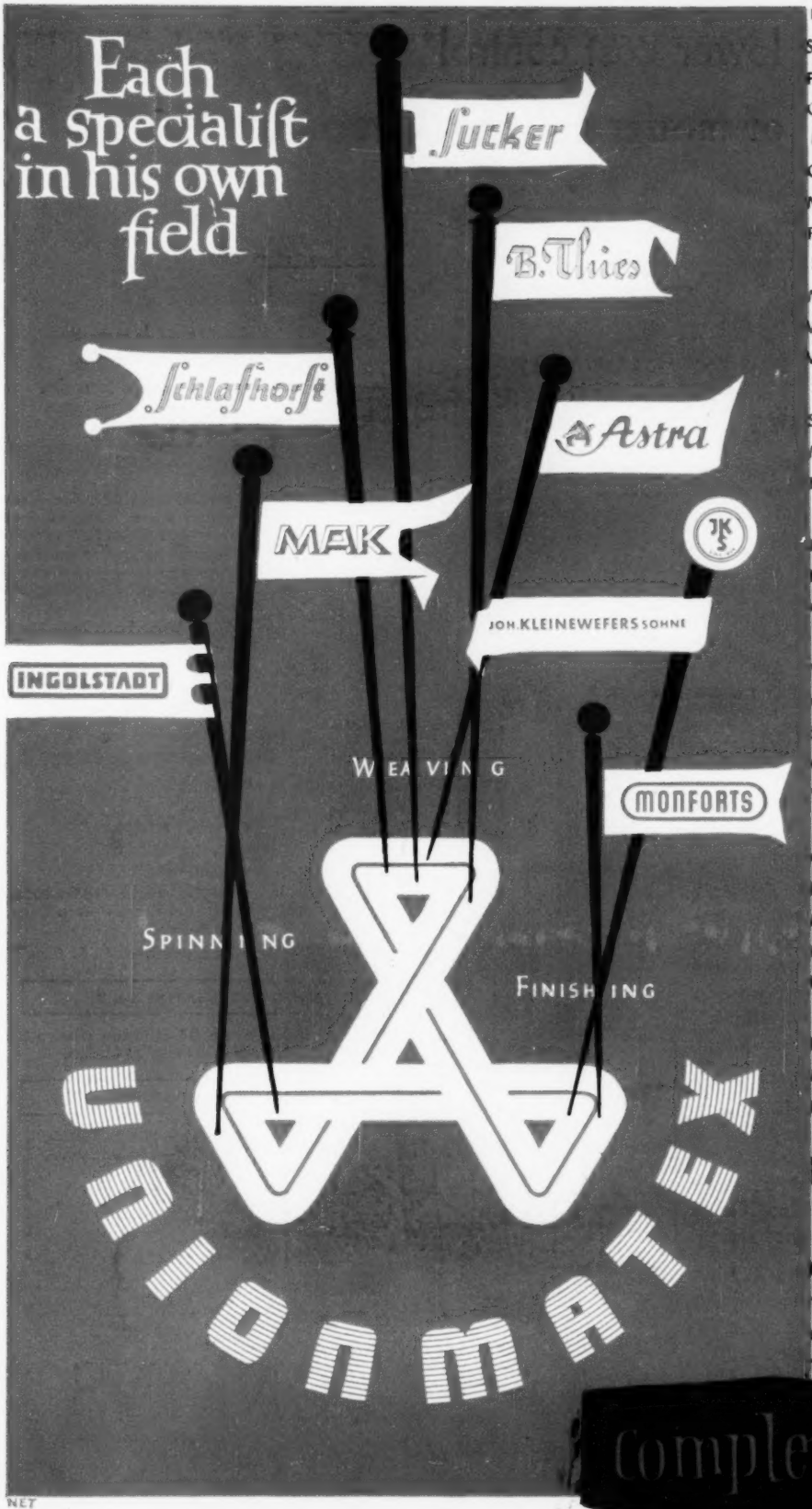
THE TREND IS TO USTER

USTER CORPORATION

CHARLOTTE 8, NORTH CAROLINA

Sales Offices: Needham Hts., Mass.—Greenville, S. C.

In Canada: Hugh Williams & Co., 47 Colborne Street, Toronto, Ontario



INGOLSTADT:
SPINNING MACHINERY FOR COTTON-WORSTED-CUT RAYON

MAK:
CARD SETS · SELF-ACTING MULES · RING SPINNING FRAMES

SCHLAFHORST:
MACHINES FOR WINDING-WARPING AND SECTIONAL WARPING

SUCKER:
SIZING MACHINES · SIZE MIXING AND COOKING INSTALLATIONS

THIES:
DYEING AND BLEACHING PLANTS FOR YARNS AND CARD-SLIVERS OF ALL KIND

ASTRA:
WEAVING MACHINES FOR COTTON-, WOOL- AND SPECIAL FABRICS e. g. FELT-CLOTHS · JACQUARD-WEAVING MACHINES

KLEINEWEFERS:
CALENDERS · MANGLES · PRINTING-, MERCERIZING-MACHINES · CONTINUOUS BLEACHING AND DYEING PLANTS

MONFORTS:
FINISHING MACHINERY
MAKING-UP MACHINERY
FOR ALL KINDS OF CLOTH

UNIONMATEX

TEXTILMASCHINEN-UNION GMBH · FRANKFURT/MAIN
NEUE MAINZER STRASSE 22
TELEPHONE: 9 35 22
CABLE: UNIONMATEX
TELEPRINTER: 04 16 48

complete plants

for lower cost control of moderately **Corrosive** fluids

Fig. 2651-A Gate

JENKINS

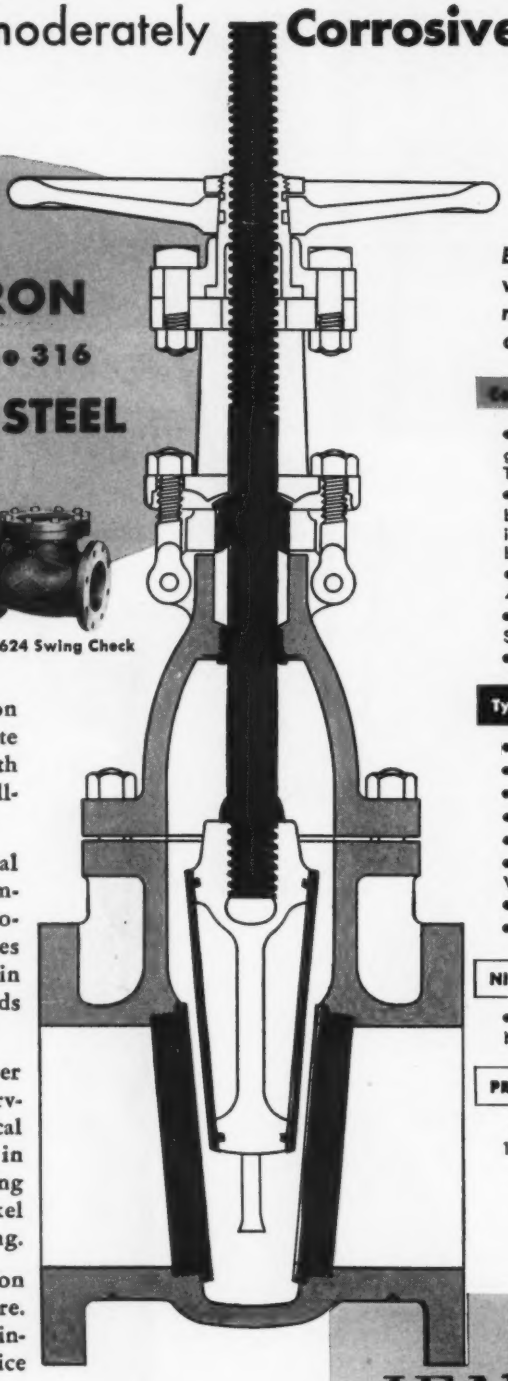
NICKEL IRON

Valves with Type 316

STAINLESS STEEL

Trim

Fig. 2624 Swing Check



Every part in contact with fluid is the right metal to block corrosion and beat wear.

Cast NICKEL IRON

- **BODIES** Heavy duty, dimensioned for greater resistance to wear and abuse. Through port design in Gate Valves.
- **BONNET** Rugged construction, like body. Swing-type gland bolts. Screwed-in back-seating bushing. Deep stuffing box.
- **YOKE** Integral with bonnet in 2″ to 4″ sizes.
- **WEDGE** In 10″ to 24″ sizes, with Stainless Steel Wedge Rings.
- **COVER** In Check Valve.

Type 316 STAINLESS STEEL

- SPINDLE
- GLAND
- BONNET BUSHING
- SPINDLE RING
- WEDGE PIN
- WEDGE RINGS Rolled into Nickel Iron Wedge in 10″ to 24″ sizes.
- SEAT RINGS
- DISC and HANGER in Gate Valve

NI-RESIST Type No. 2

- WEDGE of I-beam structure is solid NI-RESIST in 2″ to 8″ sizes.

PRESSURE RATINGS

2″ to 12″—200 lbs. O.W.G.
14″ to 24″—150 lbs. O.W.G.

This combination provides corrosion resistance well above the moderate need in many processing services with an investment well below that for all-stainless steel valves.

Designed primarily for the chemical process industries, they are recommended for control of mildly corrosive liquids with minimum quantities of mineral acids, such as creosote in wood treatment, and many liquids carried in petroleum processing.

A major use is in pulp and paper processing, particularly in lines serving the digester, and in the chemical recovery cycle. Service records in lines carrying the valve-punishing "black liquor" give Jenkins Nickel Iron Valves top performance rating.

Jenkins *extra value* construction throughout. Get details — compare. See why they stretch your valve investment dollar — with longer service life, lower maintenance cost.

GET COMPLETE SPECIFICATIONS from your Jenkins Valve Distributor, or write: Jenkins Bros., 100 Park Ave., New York 17. Ask for Bulletin 118.

JENKINS

LOOK FOR THE DIAMOND MARK

VALVES

SINCE 1864 TRADE JENKINS MARK

Jenkins Bros.

SPINNING MACHINERY
FOR COTTON, STAPLE FIBRE AND WORSTED
Design and supply of complete spinning plants
based on latest experience in spinning and engineering
Spares for spinning machinery

We are manufacturing for cotton spinning mills in particular:
Blowing Room Machinery (Trützschler system)
with central full-automatic electric control
Revolving Flat Cards · Drawing Frames · Speed Frames
Ring Spinning Frames · Ring Doubling Frames

and for wool combing mills and worsted spinning mills:
Combers · Intersecting Gills · Open Gills
Porcupine Drawing Boxes · Ring Spinning Frames
Fly Spinning Frames · Ring Doubling Frames

DEUTSCHER
SPINNEREIMASCHINENBAU
INGOLSTADT

Ingolstadt/Oberbayern · Postfach 150
Telephone: Collective No. 2801
Tel. Address: Despag Ingolstadtdonau
Teleprinter: 005 121 despag ingol

CenTraVac water chiller cuts

gives completely automatic

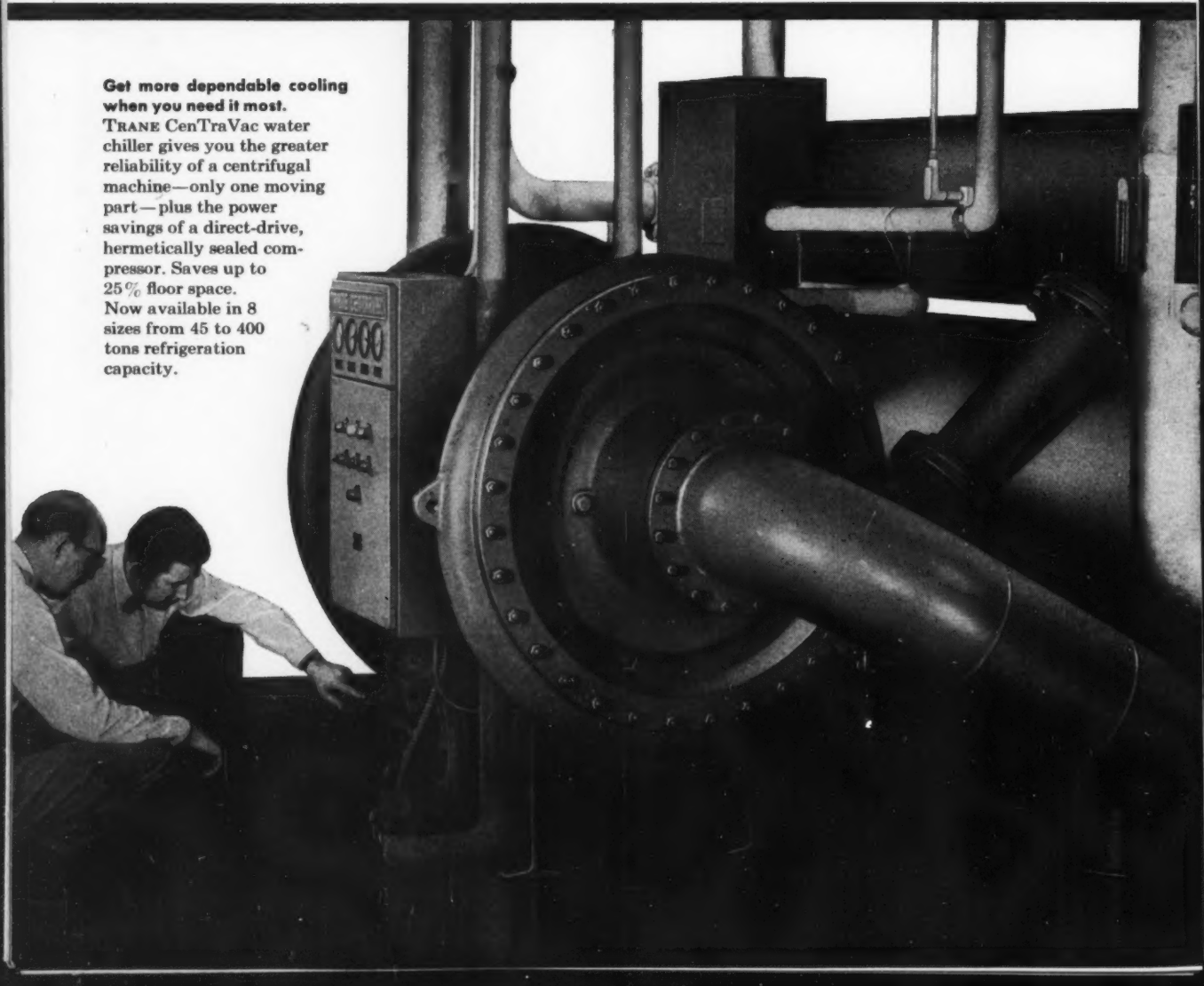
Starts, stops, runs automatically... adjusts to varying cooling requirements with power savings in almost direct proportion to load requirements . . . and is the only compressor that permits stable operation over such a wide range—from 100% down to 10% of capacity.

Cuts power costs 3 ways! 1. CenTraVac automatically matches power input to cooling load—adjusts to any load condition from 100% to 10% of capacity. *Cuts power costs as much as 8%* over cooling season, compared with 4-step capacity-control compressor. **2.** Motor and compressor hermetically sealed, eliminates power-wasting gear box, *saves up to 10% power*. **3.** In addition, an economizer, optional on larger units, *saves up to 10% power*.

Runs unattended! CenTraVac is completely automatic—frees attendant for other duties. Interlocked controls provide additional safety.

Eliminates costly Freon leakage! True hermetic compressor is airtight—all working parts inside—no shaft seals to leak Freon. *CenTraVac Freon charge guaranteed for one year!*

Less maintenance! CenTraVac has only *one* major moving part—only *two* pressure lubricated bearings. No shaft seal to



Get more dependable cooling when you need it most. TRANE CenTraVac water chiller gives you the greater reliability of a centrifugal machine—only one moving part—plus the power savings of a direct-drive, hermetically sealed compressor. Saves up to 25% floor space. Now available in 8 sizes from 45 to 400 tons refrigeration capacity.

air conditioning costs...

operation...runs unattended!

worry about. Infinite modulation from 100% down to 10% of capacity eliminates frequent starts and stops—reduces wear—adds to life.

Cuts installation cost up to $800! CenTraVac needs no expensive base that can cost up to $800. Can be installed in 48 working hours. Shipped in three pieces to simplify rigging and installation.

Quieter—almost no vibration! You can balance a dime on CenTraVac housing while it's run at full load, stopped and started.

Stable performance helps boost production! Chilled water temperature accurately maintained—keeps air conditioning system at design conditions for peak performance of men, machines and materials.

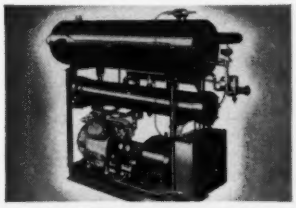
Wider range of sizes! CenTraVacs now in sizes from 45 to 400 tons capacity. Multi-unit installation can be made to facilitate zoning—or meet any load requirement. No need to order oversize unit to meet in-between load. Selection of proper size eliminates power-wasting surging!

Well known textile firms which have purchased CenTraVacs: Bossong Hosiery Mills, Asheboro, N.C.; Cone Mills Laboratory, Greensboro, N.C.; Haynsworth Mill, Anderson, S.C.; Highland Park Mfg. Co., Charlotte, N. C.; Stone Mfg. Co., Greenville, S.C.; Woodside Mills, Simpsonville, S.C.

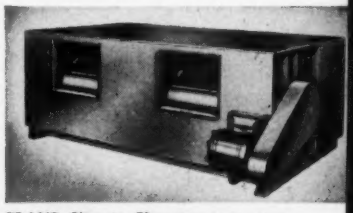
Only the Trane CenTraVac Has These Features!

1. Most modern centrifugal compressor in the industry . . . the *only* hermetic centrifugal.
2. True hermetic design with all working parts inside. Does away with gear box, shaft seal, chilled water reservoir and variable speed motor.
3. Automatically matches capacity to load smoothly from 100% down to 10% of capacity. Saves power.
4. Only *one* major moving part. Simple design cuts maintenance.
5. Capacity control achieved by variable inlet vanes to both stages of compressor. Tests prove vanes superior to dampers.

A complete line of air conditioning, heating and ventilating products

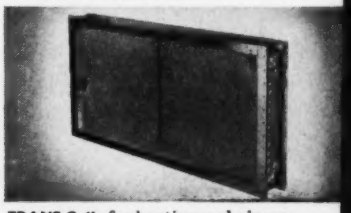


TRANE Cold Generators, packaged water chillers from 10 to 100 tons capacity. Installed quickly.



TRANE Climate Changers are complete, factory-built air handlers. From 600 to 29,000 cfm.

TRANE Fans for any size job are more efficient, have lower bhp requirement. From 688 to 491,760 cfm capacity.



TRANE Coils for heating and air conditioning have mechanical fin-tube bond, and high heat transfer efficiency.

one source • one responsibility

Install TRANE CenTraVacs

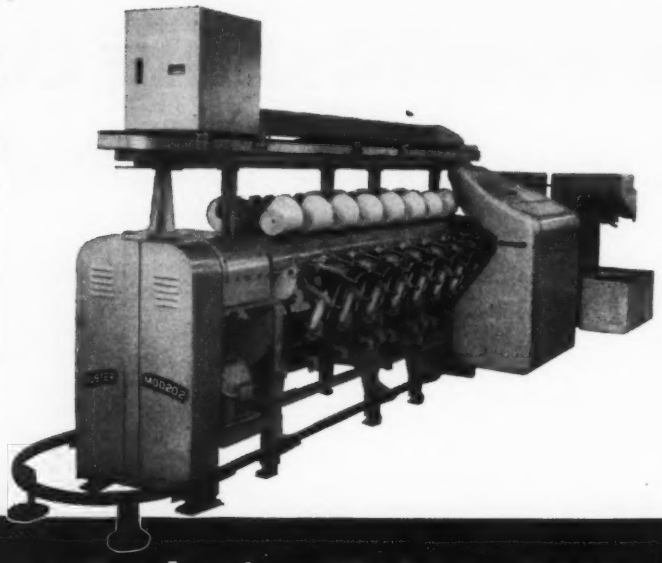
for reliable, lower cost air conditioning

MANUFACTURING ENGINEERS OF AIR CONDITIONING, HEATING, VENTILATING AND HEAT TRANSFER EQUIPMENT

The Trane Company, La Crosse, Wis. • East. Mfg. Div., Scranton, Penn. • Trane Co. of Canada, Ltd., Toronto
Offices in 90 U.S. and 14 Canadian cities.

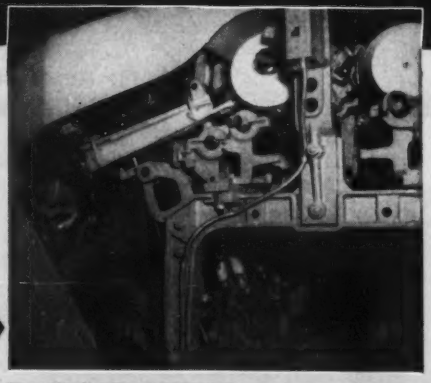
For full information call your architect, engineer, contractor or Trane Sales Office.

FOSTER
Model 202
AUTOMATIC CONE WINDER

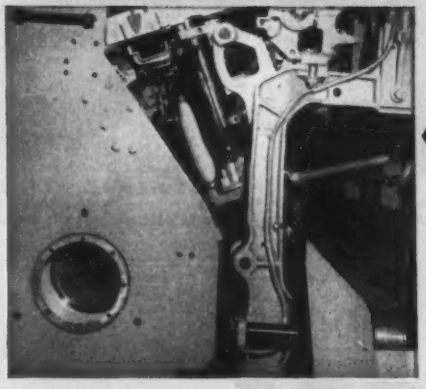


Here's Why It Increases Production 100% to 300%

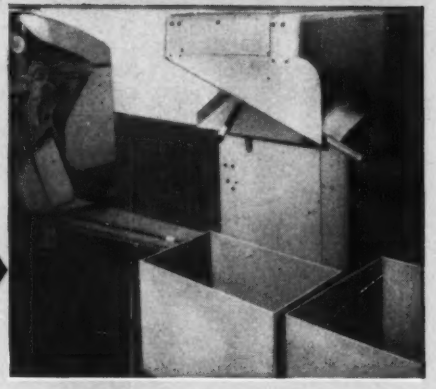
Operator's only duties are to drop full bobbins in chutes, put loose end in clip, don and doff cones and thread up new ones as needed.



Automatic tender travels around machine on rails — aspirator ignores end that is running, picks up ends down, which are then tied into weaver's knots.



Full bobbin moves into supply position from chute, as empty bobbin is automatically doffed.



Model 202 automatically sorts partially filled and empty bobbins, conveying them to two separate bins.

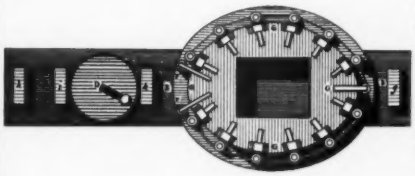
Automation increases production vastly over non-automatic winders — and for the first time automatically produces cones satisfactory for knitting, identical in quality to those produced on Foster Model 102. Write for full details.

FOSTER MACHINE COMPANY

Westfield, Massachusetts, U. S. A.

Southern Office, Johnston Bldg., Charlotte, N. C. • Canadian Representative, Ross Whitehead & Co., Ltd., 1475 Mountain St., Montreal, Que., and 35-37 King St., W. Toronto • European Representative, Muschamp Textile Machinery Ltd., Kob Lane Bardsley, Ashton-under-Lyne, England.

A Packaged Card Drive 9 ways better



Recognize it?

It's the top of an early spinning frame —the last word in textile equipment a couple hundred years ago. From ancestry such as this, modern textile machinery, like the American Individual Card Drive, has been developed to a point where fabrics of "hand-work" quality, produced in quantities never dreamed of, are commonplace.

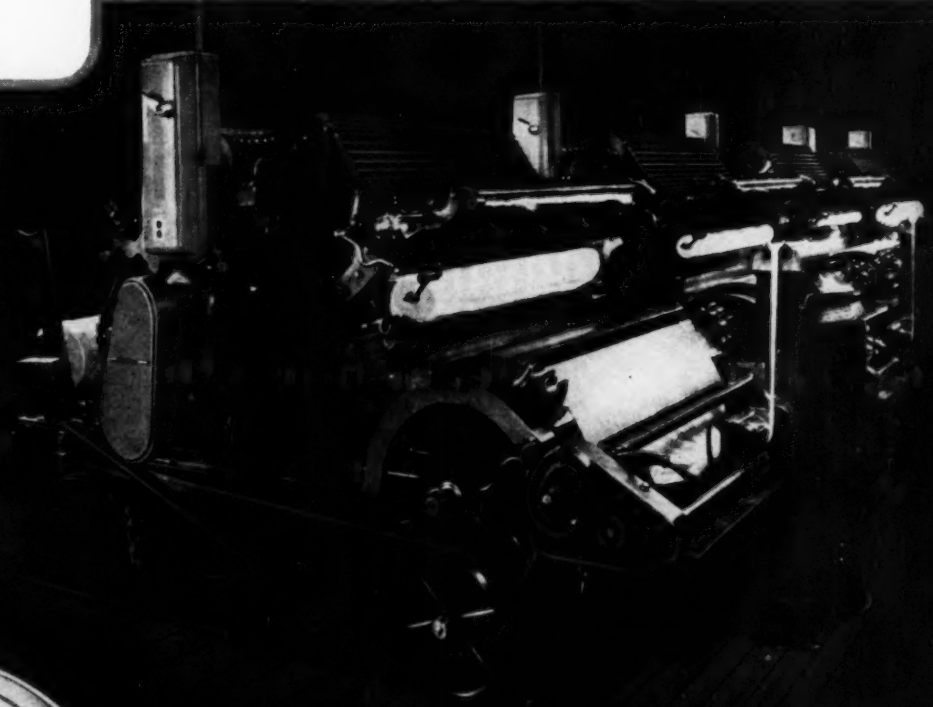
Any mill man will tell you—"get rid of line-shafting and you'll get rid of card room headaches".

The American Individual Card Drive does exactly that. An adaptation of the widely used American Shaft-Mounted Speed Reducer, the American Card Drive mounts directly on the extension of the card shaft—no possibility of card-arch deflection—eliminates the jungle of belts and overhead shafting that cuts into quality and production.

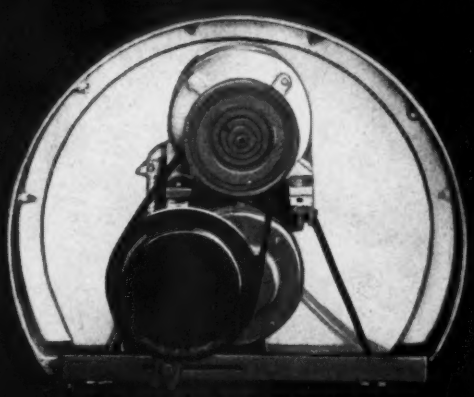
Result: no falling lint or fly, better lighting and air-conditioning possible, greater flexibility of machine speed and machine location, increased operating efficiency.

Floor space is saved, cleaning made easier. But more important, safety is yours because the belt drive is completely enclosed. No special motor or starting mechanism is required, no expensive belting needed . . . one V-belt does the work of flat-belting costing 15 times as much. And 25% card speed variation is provided with no efficiency loss.

Write today for details on American Individual Card Drives. No obligation. The American Pulley Co., 4226 Wissahickon Avenue, Philadelphia 29, Pa.



- *Increased Production*
- *Improved Product Quality*
- *Lower Maintenance*
- *More Efficient Plant Layout*
- *Working Conditions Improved*
- *Safer*
- *Greater Flexibility*
- *Reduced Belt Cost*
- *No Risk of Shut-Down From Main Drive Failure*



AMERICAN CARD DRIVE WITH BELT GUARD REMOVED
Centrifugal clutch brings card up to speed in approximately 45 seconds—permits hand stripping while card is coming up to speed —eliminates necessity of jogging. (Can be equipped for continuous stripping)

"At the profit end of the machine"

Power Transmission by

AMERICAN

PULLEY COMPANY

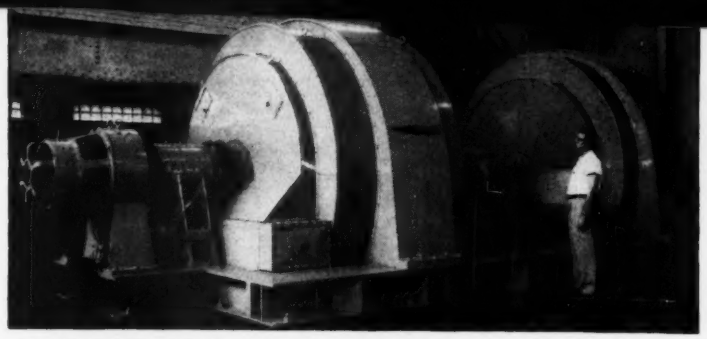
ENGINEERING REPORTS:

ECONOMICAL, DEPENDABLE POWER GENERATION is supplied at Dan River Mills' Schoolfield mill in part by this new G-E 7500-kva turbine-generator. Incoming steam enters at 600 lb pressure, exhausts at 100 lb for process use in dyeing ranges and tenter dryers. In addition, this modern textile mill also purchases utility power.

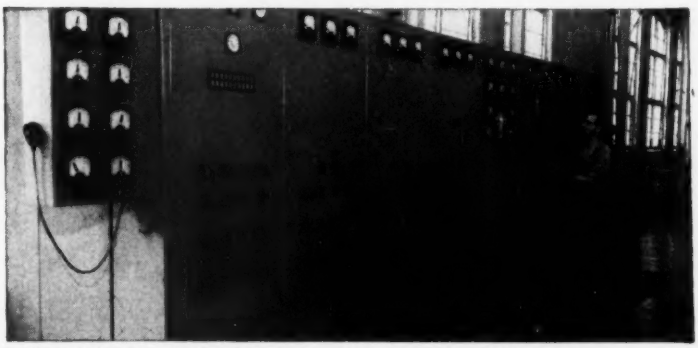
$7-million addition at Dan River powered by flexible General

POWER FOR FINISHING and bleaching is provided by compact G-E load-center unit substation, rated 1000 kva, 6900/600 volts, 60 cycles. Factory-wired, it saves installation costs.

POWER FOR FILTER PLANT, at suitable voltage level, is supplied by these two G-E 1000-kva power transformers, which step down voltage of power purchased by Dan River Mills.



POWER-SYSTEM FLEXIBILITY is made possible by this G-E 5000-kva frequency changer installed previously. It can convert purchased 60-cycle current to 25 cycles, or plant-generated 25-cycle current to 60 cycles.



POWER-SYSTEM CONTROL is function of main G-E switchgear panel, through which all power is distributed. Plant generates 10,000 kw of 25-cycle current, purchases about 100,000,000 kwh of 60-cycle current per year.

Mills Electric system

A new $7,000,000 addition to the finishing mill providing a total finishing capacity of 1,000,000 yards per day was recently added by Dan River Mills to its Schoolfield Division in Danville, Virginia.

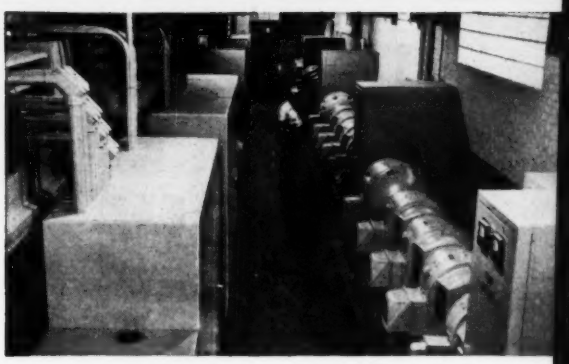
Because this increased load required an expanded electrical system, General Electric application engineers were called in to work with the plant's designers, United Engineers and Constructors. Together, they selected and co-ordinated the electric equipment needed to meet the plant's requirements. This included a 7500-kva turbine-generator, power distribution facilities, and motors and control. G-E field engineers checked initial operation, helped expedite startup.

Most electric power is purchased by the plant at standard 60-cycle frequency. It also generates its own 25-cycle power for some existing equipment, as a by-product of process steam. By a frequency changer that converts 25- to 60-cycle power or vice versa, maximum flexibility in balancing power needs is obtained.

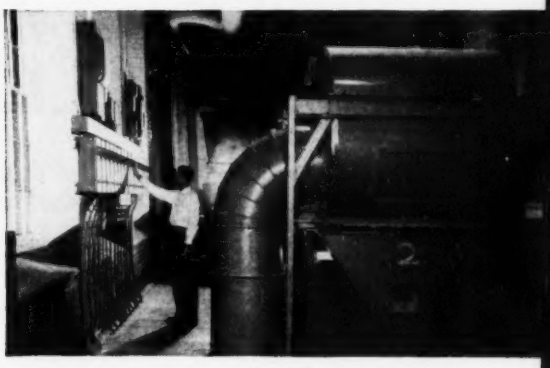
In expanding or modernizing your textile-mill operations, take advantage of the special engineering services available to you through your local G-E Apparatus Sales representative. Call him early in your planning for best results. General Electric Company, Schenectady 5, N. Y. 654-34

Engineered Electrical Systems for Textile Mills

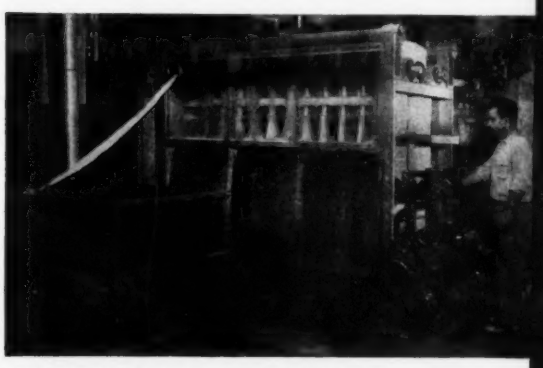
GENERAL ELECTRIC



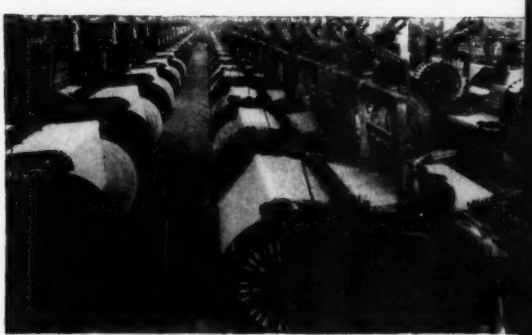
BLEACHING OPERATION is reliably powered and controlled from this room through G-E motors and starters, multiple-generators, and control panels.



PICKER is controlled from this lineup of G-E combination starters. These space-saving units combine in one enclosure both short-circuit and overload protection.

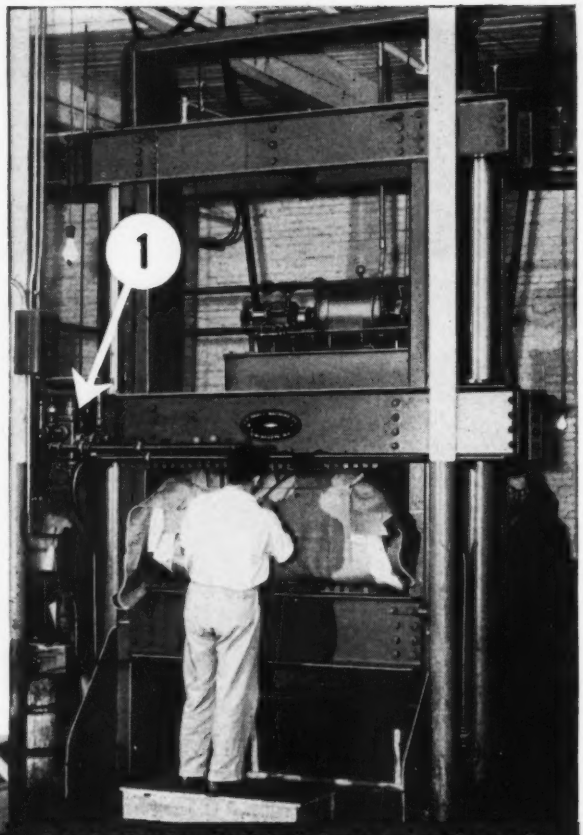


BLEACHING RANGE uses sturdy G-E d-c motors in adjustable-voltage drives. With continuous bleaching, goods are now bleached in 3 hours instead of 32.

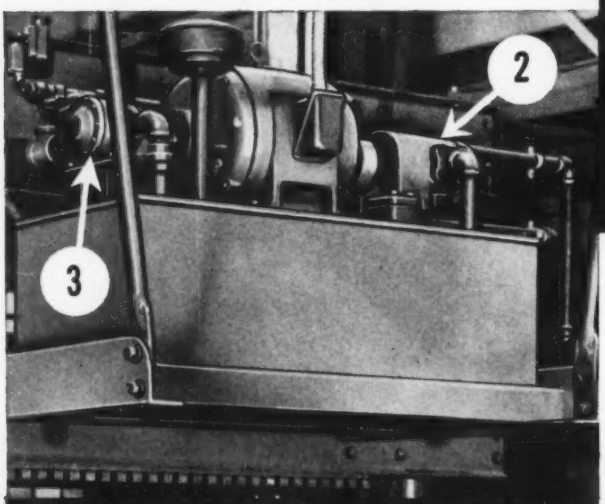


WEAVE ROOM uses G-E loom motors, controlled by G-E loom switches, to help meet rigid speed and torque requirements, help maintain maximum output.

VICKERS®
HYDRAULIC EQUIPMENT
helps produce *BETTER* BALES at *LOWER* COST



Beaty One-Floor Draw Bar Hydraulic Presses need no pit, are self-contained, complete more bales per hour, require less electric power, and the bales contain greater yardage of cloth. VICKERS Hydraulic Equipment is used exclusively. Press operation is conveniently controlled by hand lever on VICKERS 4-Way Valve (No. 1).



VICKERS Custom-Built Hydraulic Power Unit was designed and built to meet the particular needs of this press. A double-end motor drives two standard VICKERS Vane Type Pumps (No. 2 a small-volume pump for maximum operating pressure of 2000 psi; No. 3 a large-volume pump for maximum operating pressure of 1000 psi.) Both pumps deliver oil for the exceptionally fast closing of the press; during bale compression at 2000 psi, pump No. 3 is automatically unloaded to reduce power requirement to a minimum.

The advantages of using VICKERS Hydraulic Equipment as illustrated here by the Beaty Press are representative of what has been accomplished on many types of Textile machinery.

In the Textile industry, the use of Vickers Hydraulics is growing rapidly because of its adaptability, efficiency and economy. It offers exceptional advantages in simplification of design, ease of installation, accuracy and flexibility of control, and low maintenance. Automatic overload protection and inherent self-lubrication are additional highly desirable characteristics.

For further information about the benefit of Vickers Hydraulics ask our nearest Sales Application Engineering Office for a copy of new Textile Bulletin 54-66.

VICKERS Incorporated
DIVISION OF THE SPERRY CORPORATION
1588 OAKMAN BLVD. • DETROIT 32, MICH.

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6792

ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921

. . . coning oil absorption by cones!

A TYPICAL EXAMPLE OF SONOCO PRODUCT DEVELOPMENT

problem: A Sonoco customer was having difficulty with the cone absorbing oil from the yarn. This made the yarn, next to cone, brittle and stiff and hard to work. Sonoco was asked to make a cone with an oil barrier to prevent this condition.

solution: After exhaustive research and tests, Sonoco furnished the customer with a special Unitex surfaced cone. The customer reports, "This cone completely eliminates the oil absorption problem. An oil extraction, from yarn that was aged on these cones, shows that there is no deficiency of oil in the yarn that lies next to the cone . . . at 1000 yards per minute, this yarn shows no tendency to slough off at this speed."

For more than 50 years, Sonoco has successfully engaged in the development of the right cone or tube for the yarn. Our technical sales representatives welcome the opportunity to help you with your textile carrier problems.

SONOCO PRODUCTS COMPANY

MAIN OFFICE—HARTSVILLE, S. C.

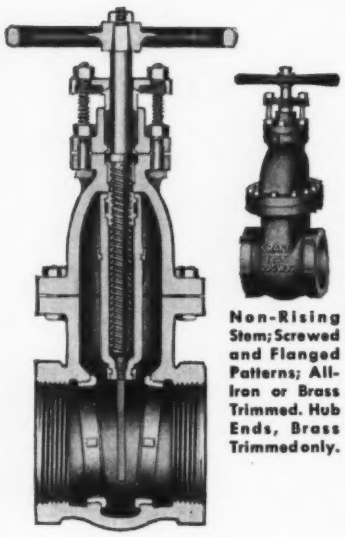
MYSTIC, CONN. LOS ANGELES, CAL. BRANTFORD, ONT. LOWELL, MASS.
PHILADELPHIA, PA. AKRON, IND. GARWOOD, N.J. GRANBY, QUEBEC

MEXICO: Sonoco de México, S. A., Apartado 10239, México, D. F.

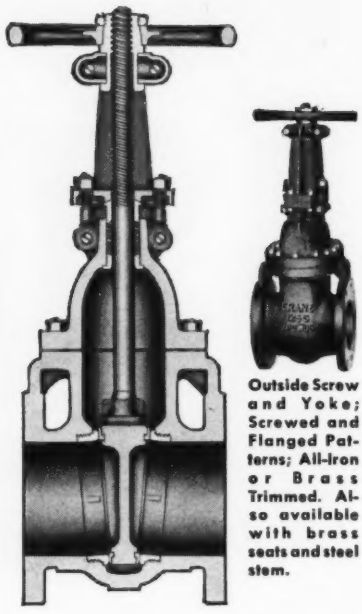
DEPENDABLE SOURCE OF SUPPLY

sonoco
SERVES THE WORLD
PAPER CARRIERS
REG. U.S. PAT. OFF.

Crane 125-Pound Iron Body Wedge Gate Valves are an improved design, embodying many features of unusual merit. They set a new peak for quality in iron body wedge gate valves, having greater strength, longer life, and better all-round adaptability for all types of services.



Non-Rising Stem; Screwed and Flanged Patterns; All-Iron or Brass Trimmed. Hub Ends, Brass Trimmed only.



Outside Screw and Yoke; Screwed and Flanged Patterns; All-Iron or Brass Trimmed. Also available with brass seats and steel stem.

See If You Don't Agree!

Here's the big value—the big selection: CRANE 125-Pound Iron Body Wedge Gates

. . . with quality features that assure exactly the kind of service you want. Body and bonnet are oval-shaped with extra metal where it's needed most, to provide liberal strength. Flanged patterns have tie-ribs between body and bonnet flanges. You also get a solid web-type disc with long guides . . . a stem of liberal diameter with long thread engagement . . . an exceptionally deep stuffing box with high-grade packing . . . a two-piece ball-type gland and flange—plus an easy-to-grip handwheel with oval-shaped rim. Non-rising stem valves have a brass bushed stem collar. OS&Y design includes a brass bonnet bushing, swinging eye bolts . . . and a tee-head disc-stem connection on sizes 12-inch and smaller.

Big selection includes all-iron or brass trimmed valves . . . Underwriters' pattern valves, quick-opening types . . . valves for process industries . . . valves for marine service. Sizes up to 48-inch. Check your Crane Catalog or ask your Crane Representative next time he calls.

THE BETTER QUALITY . . . BIGGER VALUE LINE . . . IN BRASS, STEEL, IRON

CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

For more information, write direct or use Reader Service post card.

Laconia Cooper

Up where the tall pines grow, generations of craftsmen at Charles Cooper Co. and Laconia Needle Co. have established a unique reputation among knitters throughout the world. A reputation for applying rare know-how and patient endeavor to needle making.

"Send this headache to Laconia." Chances are YOU have said it yourself. Or, perhaps, your favorite has been Cooper. Both have the same reliable ability to get you out of trouble, or to keep you out of it.

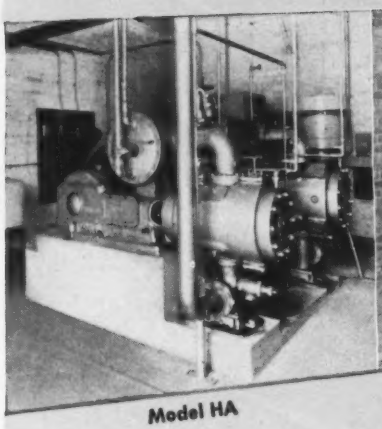
LACONIA + COOPER means this — Both companies operate today as they always have, in the same plants, and with the same people who have served you so well. Joining of the two names for reasons of business efficiency simply gives you a new sales headquarters office to call on —

— For interested attention to special requirements... or for an exceptional variety of stock items which you can bet on for stamina, precision and smooth performance.

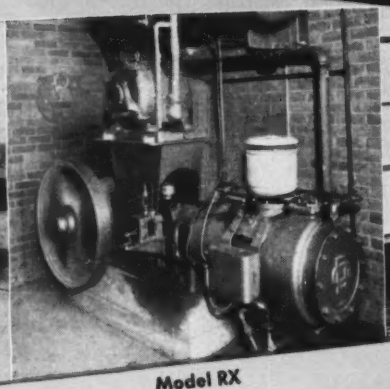
Laconia Cooper Co., Inc., Laconia, N. H.

SINCE 1859 • LATCH NEEDLES • SPRING BEARD NEEDLES • JACKS • SINKERS

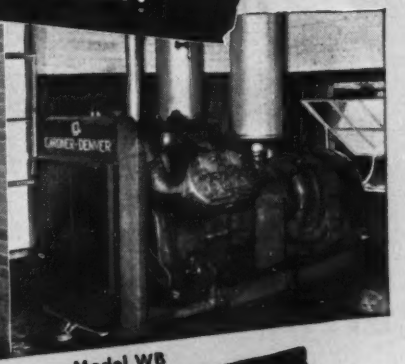
NEED A CENTRAL COMPRESSED AIR SYSTEM?



Model HA

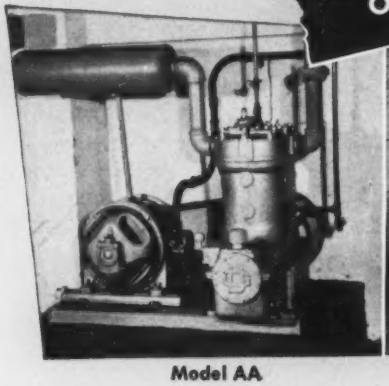


Model RX



Model WB

OR DEPARTMENTAL COMPRESSORS?



Model AA

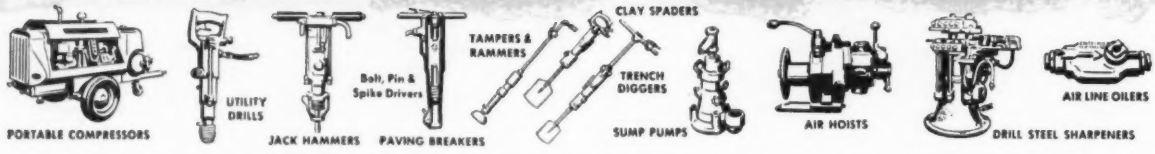
Tank-Mounted Outfit

call on GARDNER-DENVER

for expert advice in planning your compressed air system—and for quality compressors to meet your capacity and pressure requirements. Write today!

SINCE 1859

GARDNER-DENVER



THE QUALITY LEADER IN COMPRESSORS, PUMPS AND ROCK DRILLS FOR CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

Gardner-Denver Company, Quincy, Illinois

In Canada: Gardner-Denver Company (Canada) Ltd., 14 Curity Avenue, Toronto 16, Ontario

Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.

...for HIGH PRODUCTION Large Package

Uptwisting

Whitin PLY-KING Uptwister

Whitin CABLE-KING Uptwister

These highly successful uptwisters have established unusual records for high production and low costs in tire cord production. They also offer the possibilities of great savings to manufacturers of multiple end tufted cotton yarns, duck yarns, carpet yarns, and other industrial thread yarns using either natural or synthetic fibers. For further information and descriptive literature write to — Synthetic Twister Division, Whitin Machine Works.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Two "Problem" Wastes Become a Neutral Effluent

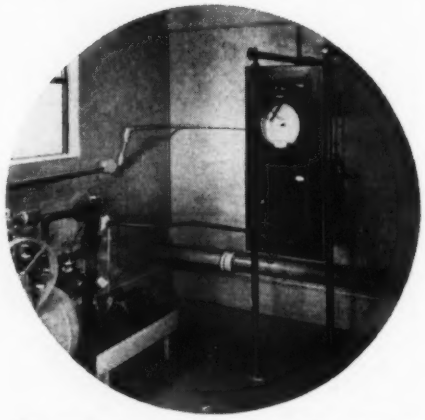
. . . under Foxboro pH Control

At the Mansfield Bleachery, acid and alkali plant wastes are collected in separate equalization tanks. No mixing problem exists, however, since Foxboro pH Control permits combining the two wastes in correct proportions before disposal . . . and a neutral effluent is constantly maintained.

The complete reliability of this Foxboro Control System is evidenced by the fact that biological growths remain hale and hearty when the effluent is further treated on trickling filters. Since the system was installed, biological activity has never been impaired by unbalanced pH.

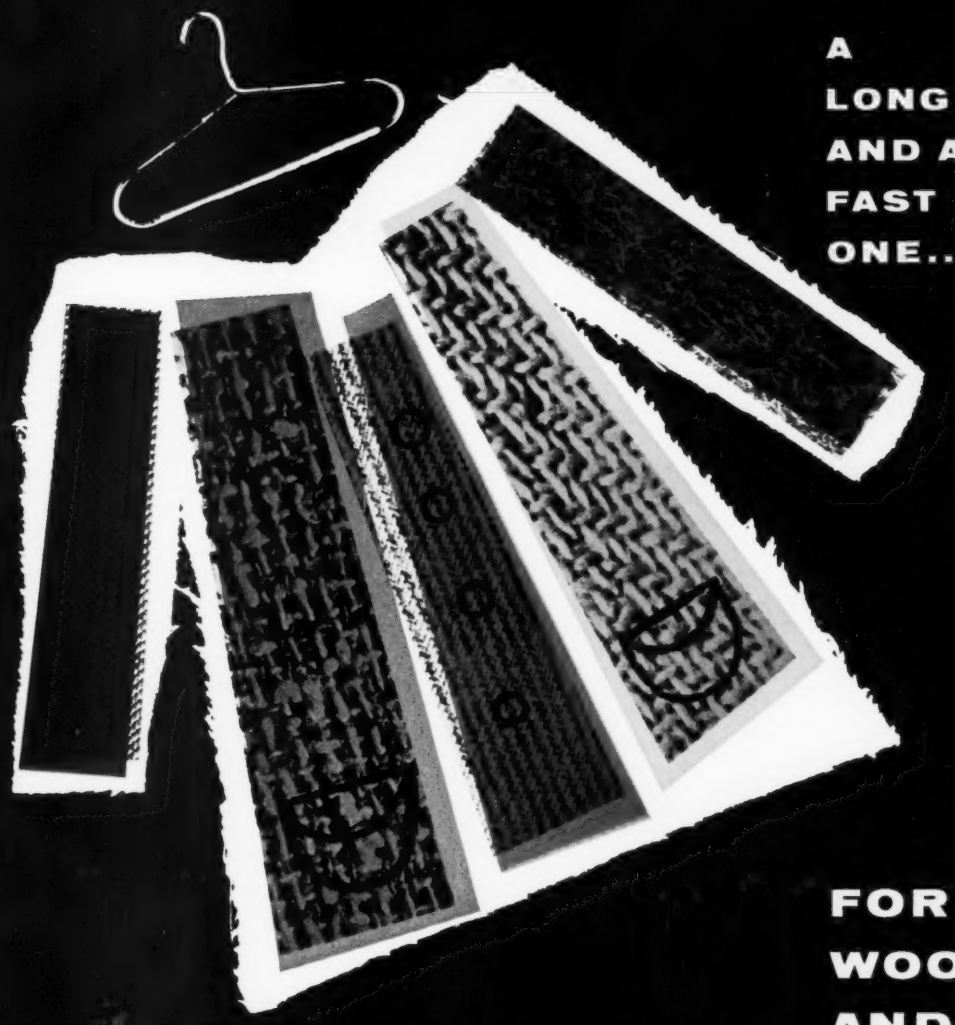
This is but one example of many industrial waste problems which are successfully solved with Foxboro Control. Whatever your waste disposal problem, Foxboro Instruments properly applied can be counted on to reduce both initial investment and operating costs. Talk it over with your nearest Foxboro representative, or write **The Foxboro Company, 846 Neponset Ave., Foxboro, Mass., U.S.A.**

Equalization tanks store acids and alkalies before they are introduced into mixing basin at Mansfield Bleachery.



Foxboro pH Controller in pump house at Mansfield Bleachery regulates flows into the mixing basin.

FOXBORO Reg U S Pat Off. **pH CONTROLLERS**



A
LONG LIFE...
AND A
FAST
ONE...

SUPRALANS

FOR
WOOL
AND
NYLON

for

- **unvarying reproducibility of shades**
  good to very good light and wet fastness
- **shorter dyeing time**

The simplicity of the neutral dyeing method of application yielding level fast shades without the aid of a leveling agent now permits wool dyers to achieve results in quality which were not possible prior to the introduction of SUPRALANS.

Better tensile strength, preservation of fibre texture, equal exhaustion properties and uniformity of shade on various types of wool are assured factors which can be assumed with SUPRALANS.

A few minutes conversation with GDC technical and sales representatives will serve to convincingly explain the exceptional dyeing characteristics of SUPRALANS.

From Research to Reality

gdc gaf

GENERAL DYESTUFF CORPORATION

A SALES DIVISION OF GENERAL ANILINE & FILM CORPORATION

435 HUDSON STREET • NEW YORK 14, NEW YORK

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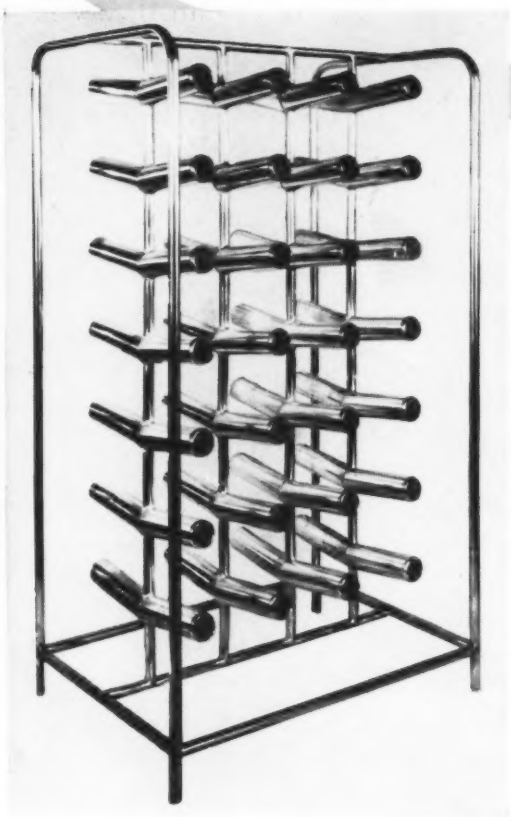
How to end
Snags • Picks • Stains
Permanently • Quickly



use *Carpenter* Stainless Tubing

Do you have these money-saving, trouble-ending advantages of Carpenter Stainless Tubing on your storage racks, spindles, dye sticks, winding swifts, bobbin carts?

It's smooth and stays smooth—won't pick or snag the most delicate fibres, even the finest nylon monofilaments. It won't rust or corrode—won't stain fibres or fabrics. It's pit-free and polished—easy to clean and keep clean, needs no refinishing. It's light—easy to handle, but strong—endures long use and toughest service conditions—keeps production up, maintenance costs down.

Call your Carpenter representative for prompt service in putting stainless tubing to work for you. Adequate stocks of required sizes and types are available near you, plus technical help on application and fabrication.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, N. J.
Branch Offices: Atlanta • Chicago • Pittsburgh • Houston
Newark • San Francisco
Export Dept.: The Carpenter Steel Co., Port Washington, N.Y.
"CARSTEELCO"

more than corrosion resistance

It Pays to Use Carpenter Stainless Tubing for:

- Bobbin racks (above)
- Dye sticks
- Drying racks
- Rolls and rods
- Skein winding swifts
- Spindles

. . . and many other textile jobs.

Carpenter
STAINLESS TUBING

—guaranteed on every shipment

CUPROFIX 52

CUPROFIX 52

CUPROFIX 52

Worth repeating

CUPROFIX . . .

Made possible an entirely new method for achieving fast colors on synthetic fabrics.

CUPROFIX "52" . . .

Enables the dyer to continue to deliver first grade quality at an even lower cost.

CUPROFIX AND SANDOFIX . . .

Are evidence of Sandoz' intention to remain the leaders in this field.

If you've ordered CUPROFIX 52 before, you know it's an order worth repeating. If you haven't, any Sandoz representative will be glad to show you how this improved Cuprofix helps you deliver first-grade quality at lower cost than ever before. Sandoz branches in Hudson, Mass.; Fairlawn, N.J.; Philadelphia; Charlotte; Cincinnati; Los Angeles; Montreal; Toronto. Sandoz Chemical Works, Inc., 61 Van Dam Street, New York 13, N.Y. B.3.6

SANDOZ

SANDOZ

THINKS AHEAD WITH TEXTILES

You need both for

ARMSTRONG'S ACCOTEX

single-apron spinning...

correct surface friction and super flexibility

AND ARMSTRONG'S NO-750 ACCOTEX APRON GIVES YOU BOTH

Many mills today are finding a new way to spin even better yarn on their single-apron frames. They're installing Armstrong's NO-750 Accotex® Apron on more frames every day because this apron helps turn out cleaner, more uniform yarn. NO-750 combines the extra flexibility and controlled surface friction needed to give good yarn control.

Super flexibility. These aprons are compounded to give you every bit of the extra flexibility possible with synthetic rubber. They'll run for years without cracking or breaking. Even more important, this seamless, flexible apron eliminates buckling and "chattering" at the nose bar, assuring you of clean, uniform yarn.

Correct surface friction. As you know, it takes more than flexibility to make an apron run smoothly. It also takes an inner surface that grips the drive roll firmly without grabbing as it slides over the nose bar.

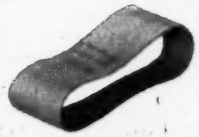
Armstrong's years of compounding experience went into the development of a synthetic rubber that gives you just this kind of surface. The compound is engineered for correct surface friction, then treated for abrasion resistance to keep the surface right—even after millions of turns around the nose bar.

A test in your mill will show you how well the new NO-750 apron works. Ask your Armstrong man to set up a test frame or write Armstrong Cork Company, Textile Products Department, 6406 Dauphin Street, Lancaster, Pennsylvania.

APRONS

A complete line of top-quality aprons

FOR CLOSE-PIN CRADLES. The NO-7075 apron gives you smooth, clean operation on the latest type equipment.



FOR SINGLE-APRON SPINNING. The super-flexible NO-750 insures smooth slip-roll action needed for uniform yarn.

FOR DOUBLE-APRON SPINNING. The NO-700 Accotex is smooth and long wearing, first choice in hundreds of mills.

 For more information, write direct or use Reader Service post card.

From one source . . . any instrumentation you need

When it comes to measurement and control, every industrial process is different. Each demands its own combination of accuracy, economy, instrument ranges, and all the numerous other characteristics that are peculiar to the individual application.

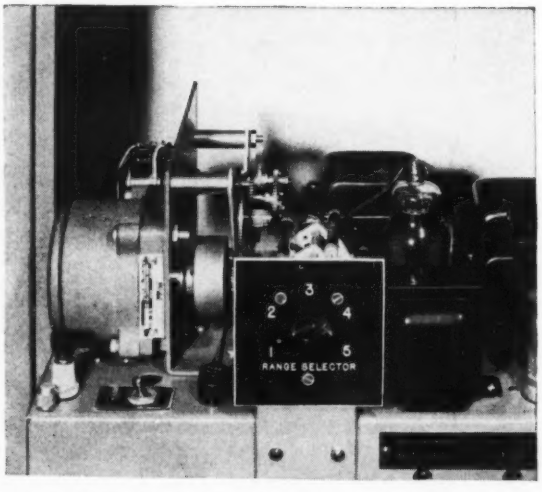
No single instrument and its accessories could possibly fit every process. So Honeywell makes a broad variety of measuring and controlling equipment that spreads across a tremendous range of applications.

The advantages are two-fold. First, you can get all the instrumentation your process requires from a single source, so there is undivided responsibility for the complete installation. And second, you are assured that the equipment selected for your process is recommended without bias . . . neither over-sells nor under-equips . . . needs no stretching, squeezing or compromising to fit it to its assignment.

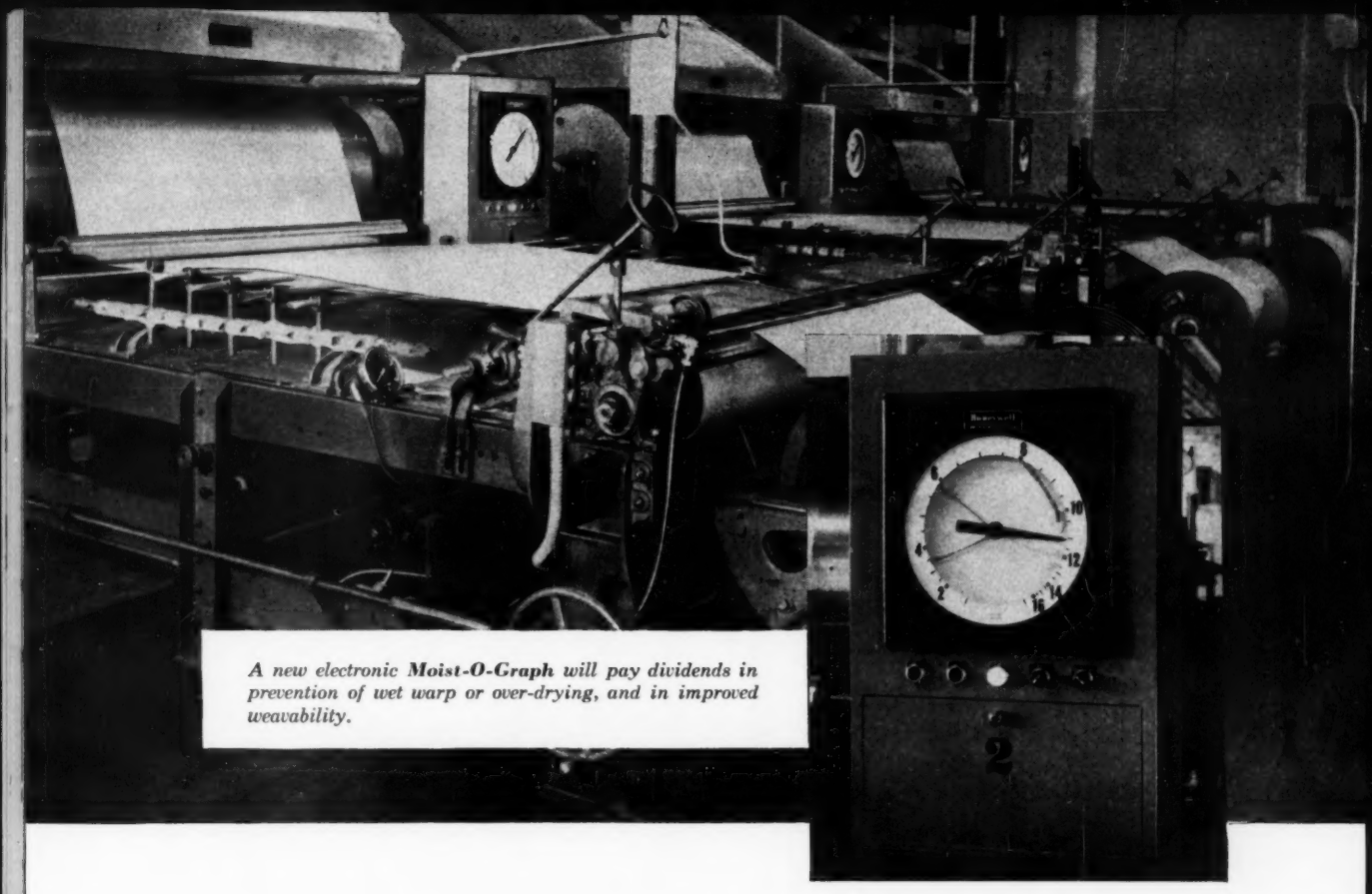
This versatile family includes *ElectroniK* indicators, recorders and controllers in circular and strip chart models, applicable to temperature, pressure, pH, power and dozens of other variables; square root flow meters for control applications; evenly graduated flow meters for cost accounting; thermometers, pressure gauges and liquid level meters; *Pyr-O-Vane* millivoltmeter controllers. Especially useful for graphic panels are the *Tel-O-Set* miniature indicators, recorders and controllers. Electric and pneumatic control systems range from the simplest to the most complex, including automatic program controls and complete systems developed for particular processes.

Working with these instruments is a full choice of primary elements . . . thermocouples, *Radiamatic* radiation elements, pressure-type and electrical resistance thermal systems, flow meter bodies, pH cells and many others. For final control elements, you can choose from a wide range of electric motorized and diaphragm operated valves. To complete the picture, there are more than 7000 non-indicating devices for controlling temperature, pressure, vacuum, liquid level and humidity . . . an unmatched variety of instrumentation made by the world's largest manufacturer of control equipment.

Modernize your slasher for better regain control . . . *with*



Range change switch lets you read per cent regain directly with any fiber, blend or size.



A new electronic ***Moist-O-Graph*** *will pay dividends in prevention of wet warp or over-drying, and in improved weavability.*

the electronic Moist-O-Graph®

ONE of the most profitable modernization investments that you can make in your mill is closer control of warp moisture . . . by means of the electronic *Moist-O-Graph*. The increase in warp uniformity that you can realize will spell substantial boosts in weave room efficiency. And your slasher room production will step up, as this modern moisture-controlling instrumentation opens the path to higher machine speeds and reduced stoppages.

Today's *Moist-O-Graph* offers features that have been developed through more than fifteen years of pioneering experience in warp moisture measurement and control:

Multiple range: a turn of a dial makes the instrument direct reading for any synthetic fiber you may be processing: rayon, orlon, acetate, nylon, dacron.

Electronic measurement: the high precision and speed of modern electronic instrumentation is applied to moisture measurement.

Direct reading: the instrument indicates and records per cent regain for any fiber, blend or size . . . no need for consulting tables.

If you already have an earlier model *Moist-O-Graph*, you can bring your instrumentation up-to-date at a cost of several hundred dollars less than that of a completely new installation. You may be surprised to learn how economically you can take this worthwhile step in modernization. Ask your nearby Honeywell sales engineer to survey your installation . . . he's as near as your phone.

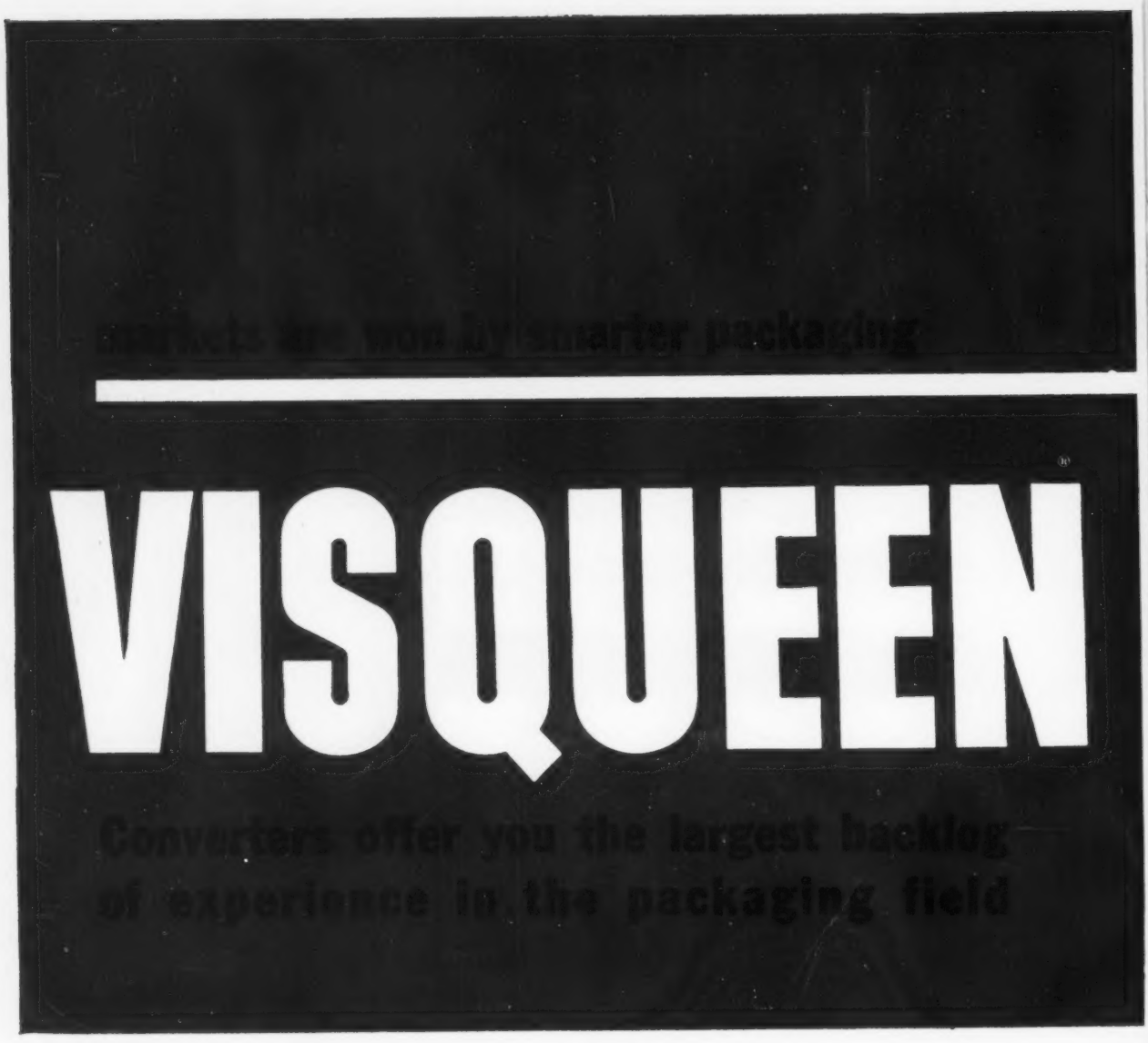
MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, Wayne and Windrim Avenues, Philadelphia 44, Pa.

● **REFERENCE DATA: Write for new Bulletin No. 54-66, "Automatic Regain Control of Rayon and Synthetic Fiber Slashing."**

MINNEAPOLIS **Honeywell**

BROWN INSTRUMENTS

First in Controls


markets are won by smarter packaging
VISQUEEN
Converters offer you the largest backlog
of experience in the packaging field

The package can go a long way to make or break your competitive position with dealers and consumers. Faulty packages can be disastrous to sales.

Creating and producing the kind of package that stands head and shoulders above others, involves more than a pretty design and a quick look at the price. A **VISQUEEN** converter can prove this. It will be in your interest and to your profit to give him the opportunity to do so.

VISQUEEN converters work closely with **VISQUEEN** headquarters. **VISQUEEN** was called upon during World War II by the War Department to perfect polyethylene for packaging and various other uses. As a result **VISQUEEN** has a backlog of experience and technical knowledge about polyethylene that cannot be matched. With the combination of **VISQUEEN's** resources and facilities, and the equipment and packaging expertness of **VISQUEEN** converters you can be sure of a result to suit exactly your packaging and selling needs. When you call in a **VISQUEEN** converter you are meeting with a qualified expert who is in a position to give you the kind of counsel that always results in economy and long-range satisfaction.

Here's why VISQUEEN is superior for Textile and Apparel Packaging:

1

2

3

4

5

6

VisQueen® film... a product of

THE VISKING CORPORATION

World's largest producers of polyethylene sheeting and tubing

Plastics Division, Terre Haute, Indiana

In Canada: Visking Limited, Lindsay, Ontario

Important! VISQUEEN film is all polyethylene, but not all polyethylene is VISQUEEN. VISQUEEN film is produced by process of U. S. Patents No. 2461975 and 2632206. Only VISQUEEN has the benefit of research and technical experience of The Visking Corporation, pioneers in the development of pure polyethylene film.

THE VISKING CORPORATION, BOX U8-1410 Plastics Division, Terre Haute, Indiana

Please send me names of VISQUEEN converters serving my area.

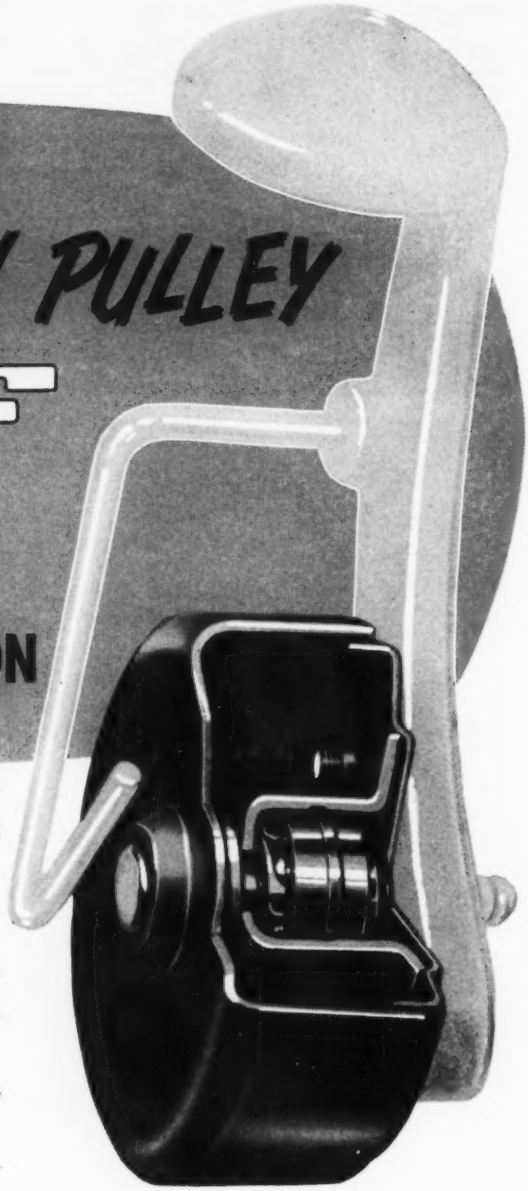
Name_____ Company_____

Address_____ City_____ Zone____ State_____

A NEW TENSION PULLEY

From SKF

8 WAYS BETTER
LOW IN COST
PROVEN IN OPERATION



Available for immediate delivery, this new SKF Tension Pulley is an improved design, supplementing the one originated by SKF in 1933.

Here are its 8 cost-cutting advantages:

1. *Designed around a tilt-proof double-row SKF ball bearing.*
2. *Low in first cost, low in operating cost, low in maintenance cost.*
3. *Strong all-steel construction for long life.*
4. *Needs lubrication only once every 3 years for 3-shift, 6-day operation. Grease fitting makes re-greasing easy.*
5. *Because it is the inner ring of the bearing that rotates, lubrication is more efficient and capacity is higher.*
6. *Fly and dirt proof.*
7. *Smooth running, almost noiseless.*
8. *Two screw fasteners make it adaptable to various type brackets.*

SKF, the pioneer, still leads with more efficient anti-friction textile units. Ask your nearest SKF District Office for all the facts—and have your SKF Field Engineer tell you about three *other* important SKF Textile Bearing Specialties . . . the SKF Pendulum Arm . . . the SKF Ball Bearing Top Roll . . . the SKF Roller Bearing Spindle. 7537

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
—manufacturers of **SKF** *and* HESS-BRIGHT® *bearings.*

SKF®
TEXTILE BEARING SPECIALTIES

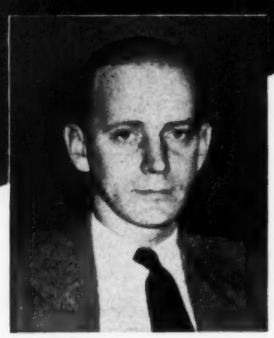
Joanna Cotton Mills reports:

"FOAMGLAS® helps maintain required humidity, eliminates wet walls"

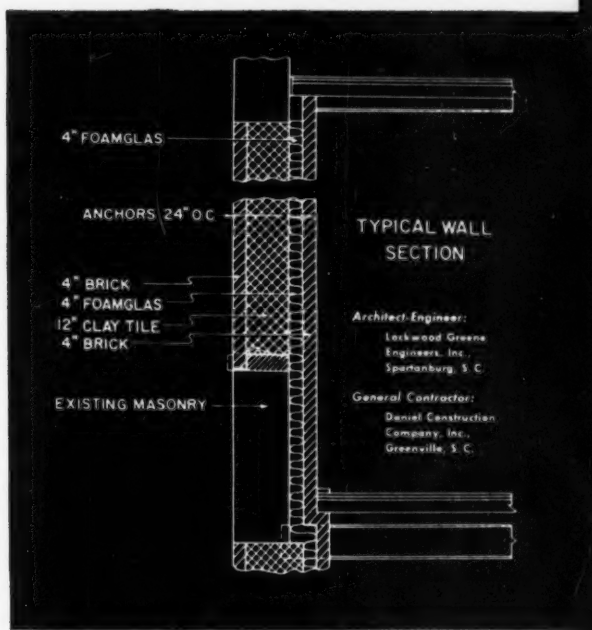
"FOAMGLAS insulation certainly helped us solve some serious problems in our weave room," reveals Walter Regnery, vice-president and Manager of Joanna Cotton Mills, the world's largest manufacturer of window shade cloth. He explains: "We had been having difficulty in maintaining critical temperatures and humidity and in avoiding dripping walls. We stopped these troubles by insulating the entire inner wall area with FOAMGLAS. Its waterproof cellular glass structure helps us maintain required conditions constantly, unlike ordinary insulations which lose effectiveness as they absorb moisture."

You will benefit greatly by insisting on fire-proof, rot-proof, rigid FOAMGLAS to insulate *your* walls, roofs, floors, piping and equipment. For free sample and further facts write us for copies of our brand-new booklets. Indicate whether you are interested in insulating buildings, or piping and equipment. Address Department AH-64 . . .

PITTSBURGH CORNING CORPORATION
One Gateway Center • Pittsburgh 22, Pa.

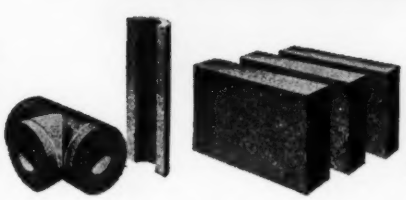


WALTER REGNERY, V. P. and Manager,
Joanna Cotton Mills, Joanna, S. C.



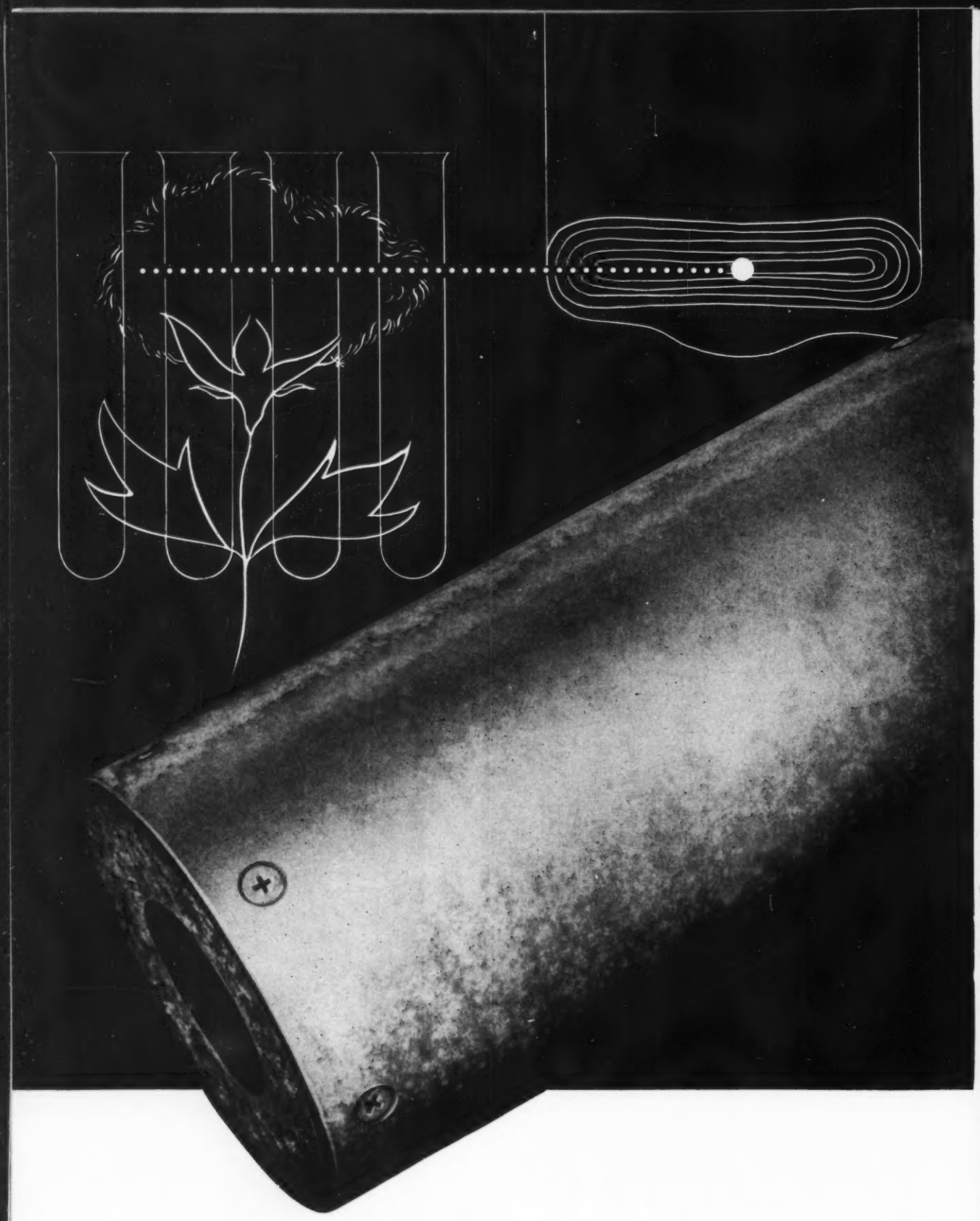
FOAMGLAS®

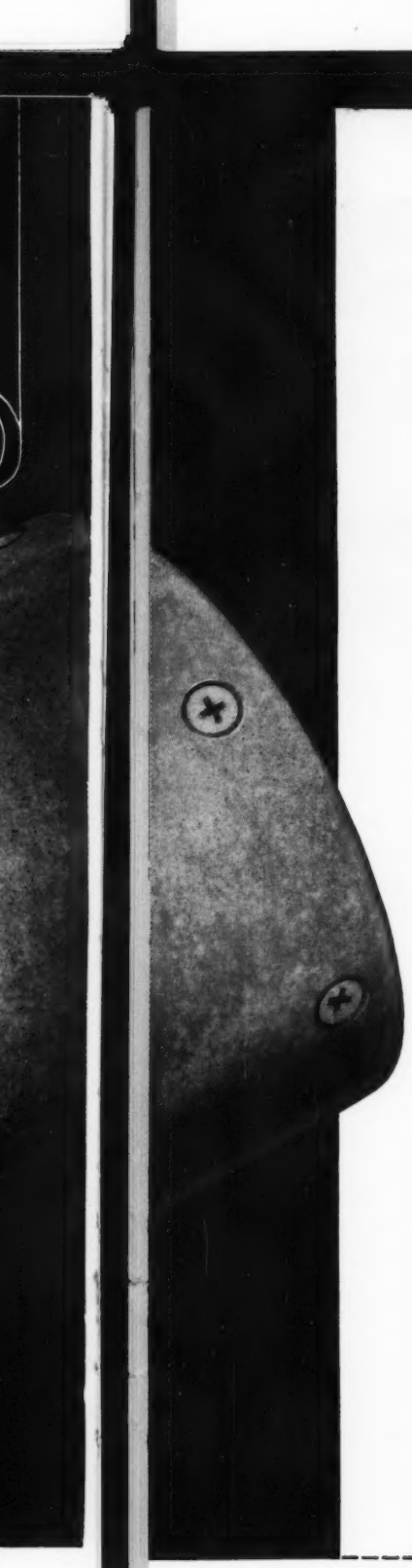
the cellular glass insulation . . . it stays dry!



PITTSBURGH PC CORNING ®

Pittsburgh Corning also makes PC Glass Blocks





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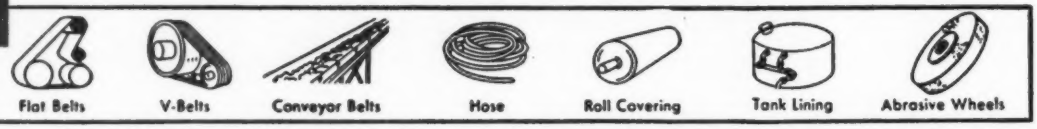

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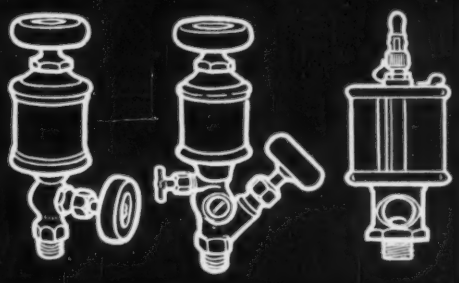
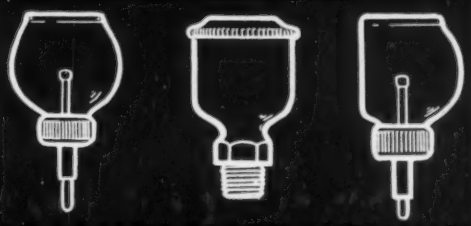
AIR DEVICES



LUBRICATORS



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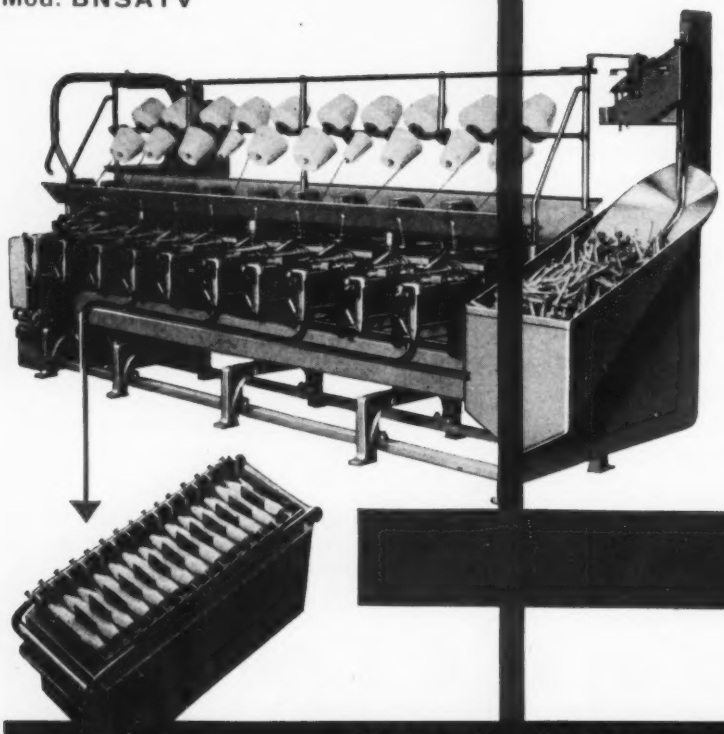

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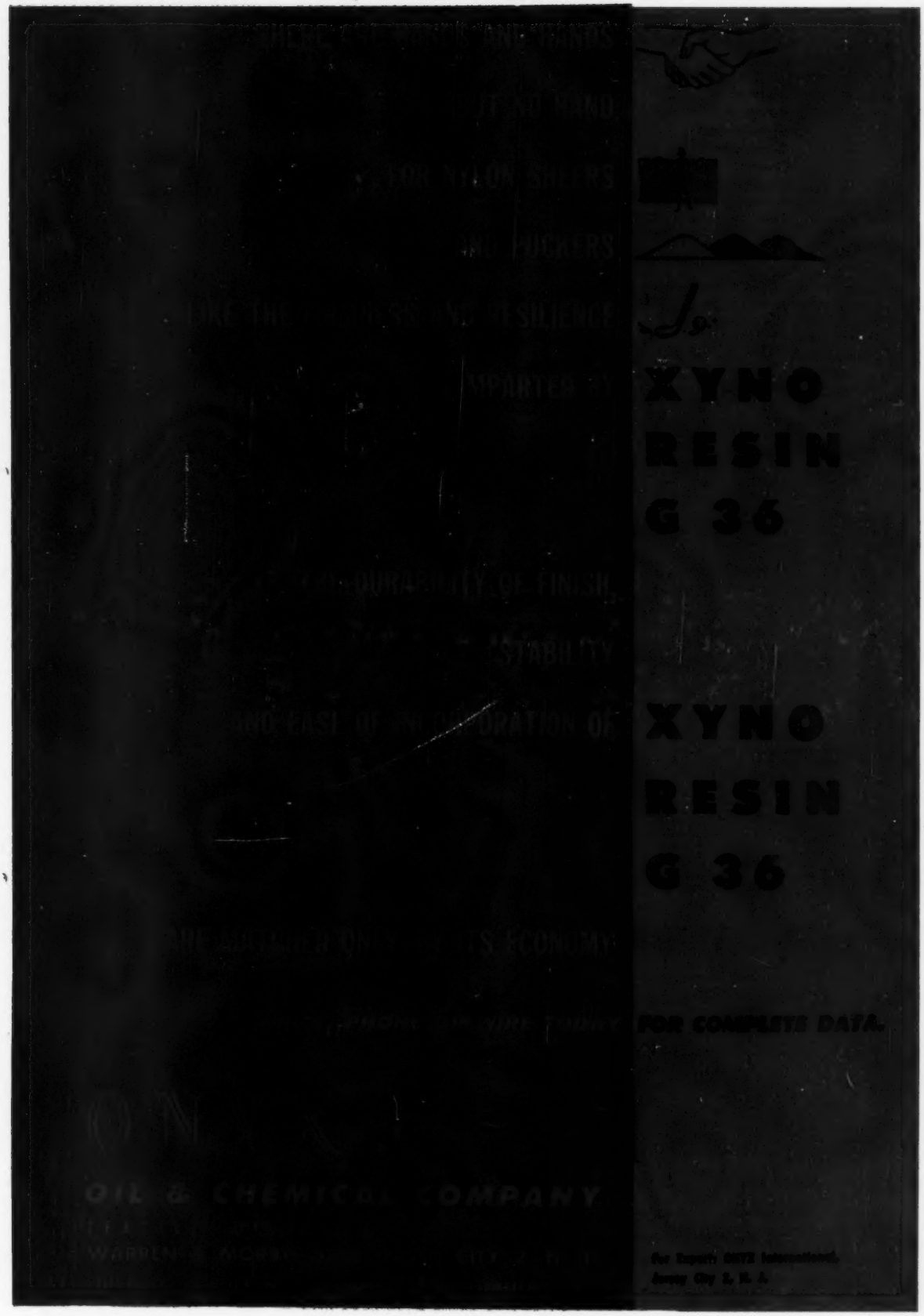

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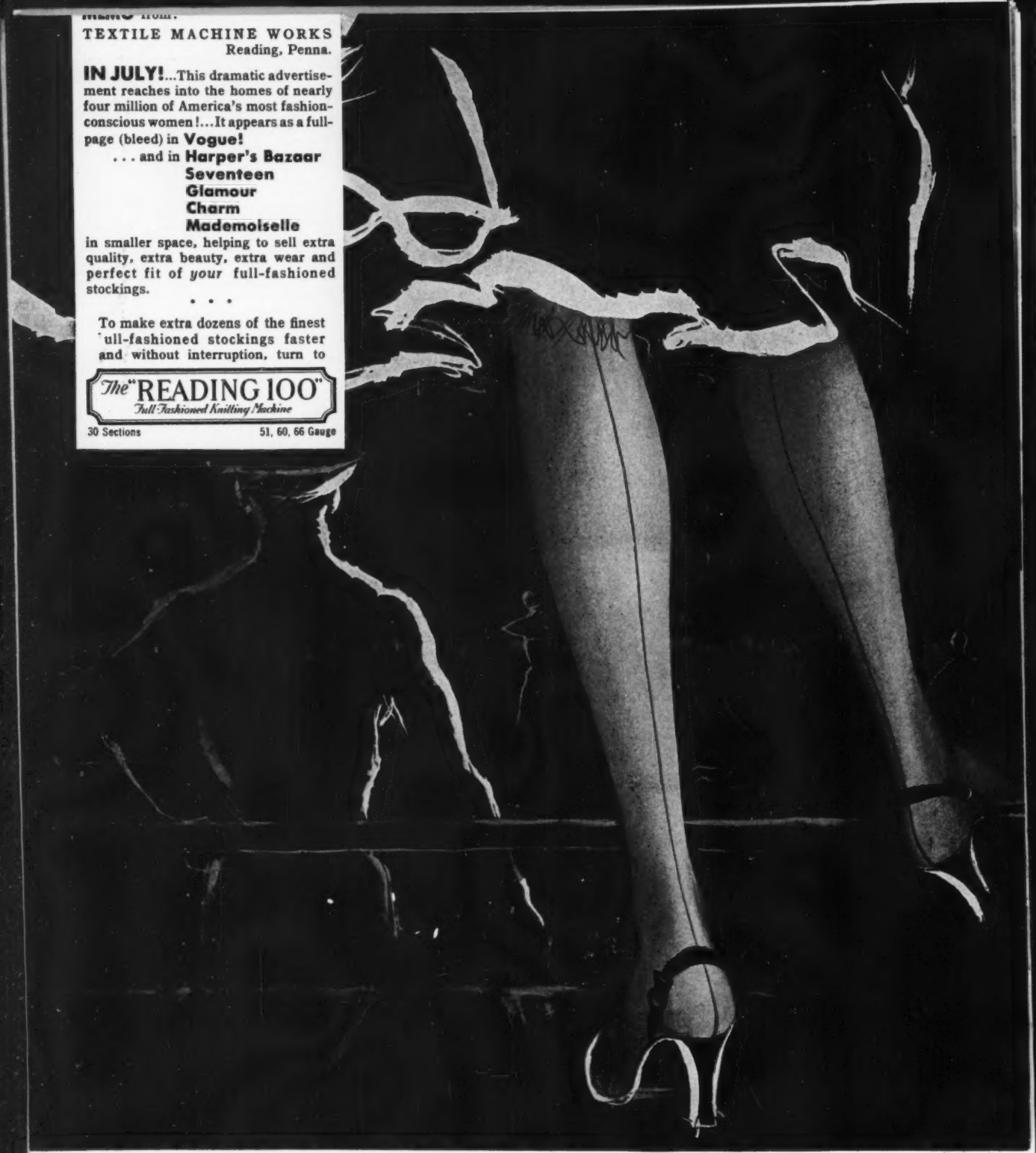

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FINANCIAL AID TO HIGHER EDUCATION

Our Colleges and Universities Face Grave Financial Problems

For the past decade the nation's colleges and universities have been caught in a destructive financial squeeze. It is particularly destructive for the independent, privately endowed institutions. Unless extraordinary measures are taken to relieve this squeeze, it promises to become progressively worse. To let it do that is to court a national disaster.

This is the first of two editorials devoted to the financial plight of our colleges and universities. This first editorial deals with the character of the problem, present and potential. The second will indicate some things that need to be done about it, and particularly what American business might do.

Enrollment Soars, Income Lags

In broad outline, the financial problem that afflicts our colleges and universities is simple. The demand for their services has increased rapidly, and promises to keep on increasing even more rapidly. At the same time, their financial capacity to provide these services has lagged behind, primarily because of price inflation.

Between 1940 and 1950, college and university enrollment increased from approximately 1⅓ million to 2⅓ million—about 75 per cent. Over the same period, the educational income of these institutions, measured in terms of its actual purchasing power, increased only about 64 per cent. Thus, at the end of the decade, our colleges and universities as a group had, on the average, about 6 per cent less to spend per student than they had at the beginning. Meanwhile, the rapid advance of science and technology had made a good college or university course a much more expensive operation than it was in 1940. Since 1950, the latest date for which comprehensive figures are available, the financial squeeze on our colleges and universities has intensified, largely because of another wave of price inflation touched off by the Korean War.

Among the colleges and universities, the independent, privately endowed institutions are particularly hard pressed. In terms of actual purchasing power, the independent liberal arts colleges are now spending at least 20 per cent less per student than they spent in 1940. Public institutions of higher learning, supported out of tax revenues, have managed to increase slightly their expenditure per student. Otherwise, the financial squeeze on higher education as a whole would be even more severe.

Why Independent Colleges Are Hit Hardest

The principal reason why the independent colleges and universities are so hard up is the shrinkage in their income from endowments. These endowments, created in other days by gifts of generous benefactors to help pay the expenses of higher education, have been hit hard from two directions. During the war and post-war years, the tax collector took so large a part of the incomes and estates of wealthy people that this source of endowments has been greatly reduced. Over the same period price inflation cut in half the purchasing power of the income derived from existing endowments. In 1940 income from endowments provided 26 per cent of the total income of the independent colleges and universities. By 1950 it provided only 14 per cent. The figure is still lower today.

The financial plight of the independent colleges and universities is directly reflected in the salary status of their teaching staffs. In mid-1952 a national survey showed that, after adjustment for the increased cost of living, the salaries of those holding full professorial rank in these institutions were 12 per cent lower than they were in 1941-42. Junior teachers, with the rank of instructor, fared somewhat better. In terms of actual purchasing power, their salaries declined only 2 per cent over the 12-year period, largely because there is more direct competition for their services from industry. Over the same period, the real wages of industrial workers increased 55 per cent.

Time Will Not Provide a Cure

The plight of the colleges and universities, which is shared in some degree by all parts of our educational system, is not one that can be left to time for a cure. On the contrary, the financial problems of our institutions of higher learning will be intensified in the years ahead by the pressure of rapidly increasing enrollments. Present prospects indicate that during the next decade college and university enrollment will increase by about one-third, or from 2⅓ million to over 3 million. The problem of increased enrollments will become particularly acute toward the end of this decade when the babies born during the great surge of population in World War II are ready to enter college.

Such an increase in population as that now in prospect can be a tremendous asset to the nation. It is still a truth, even though it is worn a bit thin by frequent repetition at commencement exercises, that a nation has no resource more valuable than the education of its people. And the better the education, the more valuable the asset.

But to realize this, our colleges and universities must have the financial strength to handle the increased enrollments that face them in the years ahead. This means that we must relieve our independent colleges and universities, in particular, from the financial squeeze in which they are now caught and make them full partners in the economic well-being of the nation. Some of the means by which American business might help achieve this will be discussed in a second editorial.

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments that are of particular concern to the business and professional community served by our industrial and technical publications.

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Donald C. McGraw

PRESIDENT

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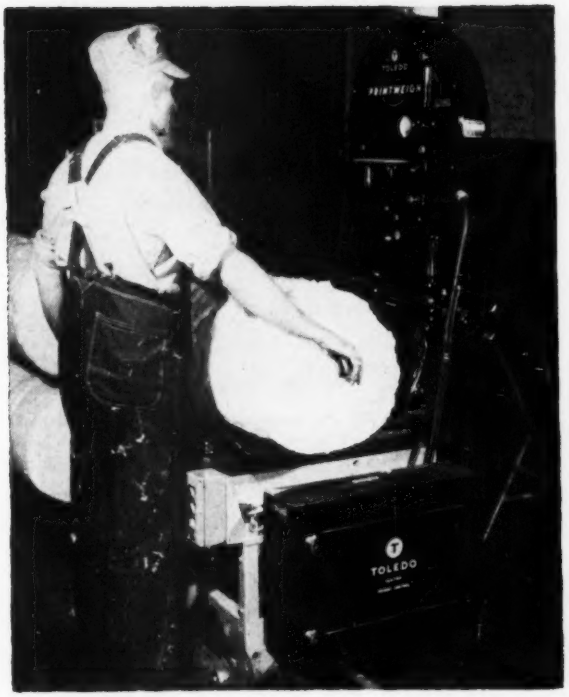
TEXTILE WORLD
June, 1954 • Vol. 104 - No. 6



PICKER-LAP WEIGHT is recorded on a tape inside the scale as the lap is weighted by Picker Tender J. C. Rosser. The motorized scale stops at each of five pickers in its movement down the track. Boxcar-style trucks were added by the maintenance department.

REVOLVING CLEARER ROLLS are cleaned automatically on this new-type machine. Spinning-room Overseer A. B. McNeill placed the rolls in the top tier of the scray. They feed themselves to a pair of knurled rolls where the waste is removed by vacuum action.

This Mill's MAINTENANCE SYSTEM *Is Not for Repairs Alone*

Improving machinery and equipment instead of repairing it is the main work of the maintenance department at Calhoun Mills. Here are some of the results—

- **Cotton unloads from railway boxcars in a continuous cycle**
- **Automatic picker-lap weighing amounts to mechanical supervision**
- **Mercury switches and electronic controls reduce cloth-room-machinery downtime**

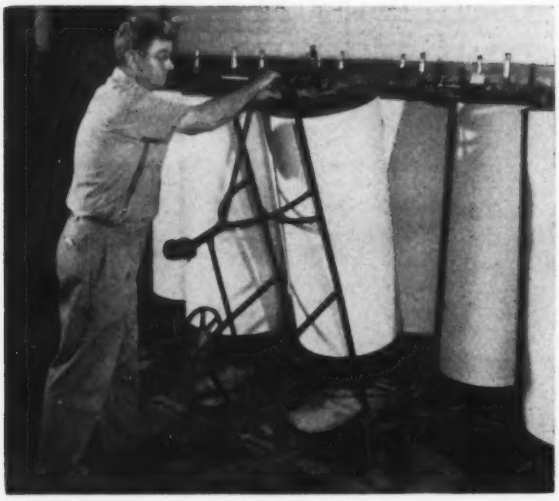
By RICHARD B. PRESSLEY, Associate Editor, TEXTILE WORLD

AT FIRST GLANCE, the organization and physical setup in the maintenance department at Calhoun Mills, Calhoun Falls, S. C., seems to be just average. But machines throughout the mill show the results of work done by the maintenance department in carrying out the ideas of production-department overseers and the plant engineer.

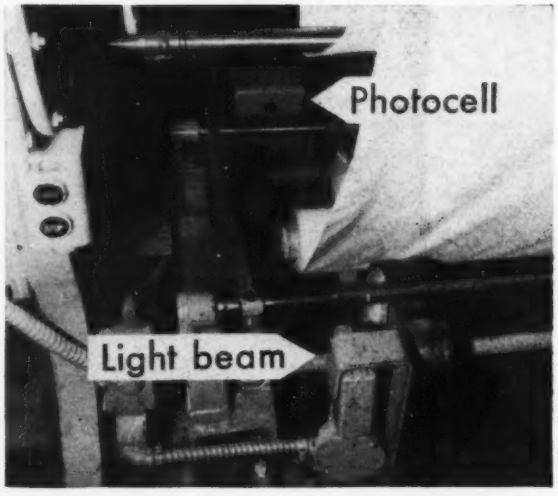
Everyone Furnishes Ideas

Beginning where cotton is unloaded at railroad boxcars and continuing through each process until cloth is shipped, most machines, the physical plant, and the arrangement of machines show the effect of ideas originated and developed by plant supervisors and worked out by the maintenance department.

Take unloading cotton, for instance: California cotton and Memphis-area cotton in 1 1/32- to 1 1/16-in. staple lengths are unloaded from railway boxcars with little physical effort. The car is opened on both sides. Yard men use hand-trucks to remove the bales of cotton down a slight incline to a scale where the cotton is weighed. The cotton continues down a slight incline and is



DOFFED LOOM BEAMS at the slashers are transported to racks and tilted on end with the cradle-type truck. Slasher Foreman J. B. Martin demonstrates the perfect balance of the beam on the truck. The truck was made in the machine shop.



AN ELECTRONIC DEVICE was designed in the maintenance department to stop the machines in the stitcher-folder unit in the cloth room when all cloth runs off the cloth-roll tube. The device gives the machine operator leisure time and increases cloth production.

dropped on a chute into the lower level of the cotton warehouse, where a sample is taken from every bale and checked with a Micronaire. Then the cotton is stored with a fork lift truck.

When the yard employee drops the cotton off his truck onto the chute, he is opposite the side of the car door from where he unloaded the cotton. His empty truck is pushed up the 1-ft. incline while empty, and another bale of cotton is unloaded from the car.

The yard men travel continuously in an oval-shaped path and always travel in one direction. The greatest circumference traveled is half the length of the car. All travel, while the truck is loaded, is down a gentle incline with no pushing and no holding back necessary. The platforms, scale position, and route were developed by the yard overseer and plant engineer.

Ideas Reduce Physical Work

A little farther along the cotton-processing route in the opening room, there are other evidences of maintenance-department work. Early each morning a yard man lays down the bales of graded cotton to be mixed in the blending feeders. Bales are opened; and as the grading ticket is removed from each bale, the ticket is placed on a board marked off into sections just like the floor to show the position of each bale. When a bale has to be removed from the line for a defect, the correct ticket for the bale is easily located.

Motes are removed from the opening room and taken to the waste house by a pipe line tied in with the vacuum-stripper for the cards. The vacuum system also removes waste from all yarn-processing departments.

To prevent mixing different types of waste, a signal-light system is located in each department at the entrance of each waste line. The waste-house man turns on a green light at one entrance at a time to indicate that that line is clear for waste to be removed. When a green light is on in one department, a red light is on in all other departments. As a result, all waste is kept separate with little effort.

A Toledo automatic-recording scale was recently installed in the picker room to weigh picker laps. The maintenance department fitted the scale with lap trucks in boxcar fashion.

The scale is electrically operated and moves along a track at the front of five pickers. Power for operation and automatic weighing comes from an overhead track similar to a monorail. Another track in the floor guides the caster-equipped scale.

The Scale Is Automatic

The scale has a start-and-stop push-button control so that the picker tender can place a lap on the scale to weigh it at the first picker, remove the lap, press the button to stop at the second picker, and continue this procedure to the end of the picker line. Then a button is pressed to return the scale to the beginning of the line.

The problem after the scale was installed was to remove the laps from the scale and store them without slowing down the picker tender in the doffing cycle. The department overseer and maintenance men solved the problem by connecting a truck to the scale to hold six picker laps. The trucks have three arms on each side to hold a picker lap on a picker-lap pin. A coupling much like the coupling on freight cars is connected to the scale.

To fasten a truck to the scale, the truck is simply run against the coupling, and the coupling locks itself. To unfasten the truck, the picker tender pushes the handle of a waist-high lever and the truck comes loose.

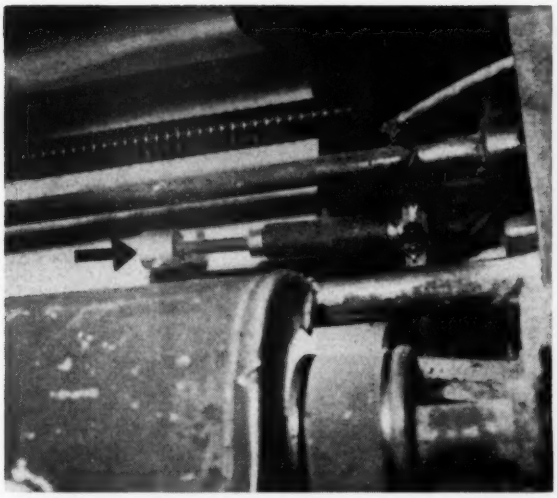
Operation of the joined scale and truck works this way: Picker No. 1 is doffed, and the lap is placed on the scale. The weight is automatically recorded on a tape. The picker tender checks the weight by seeing that all laps weigh within the two red lines that show when the lap is more than ½ lb. heavier or lighter than standard.

It's Mechanical Supervision

If the weight is greater than the ½-lb. tolerance, the picker tender adjusts the picker at once and places the lost lap in an area by itself. Normally, there are three to four lost laps per shift.

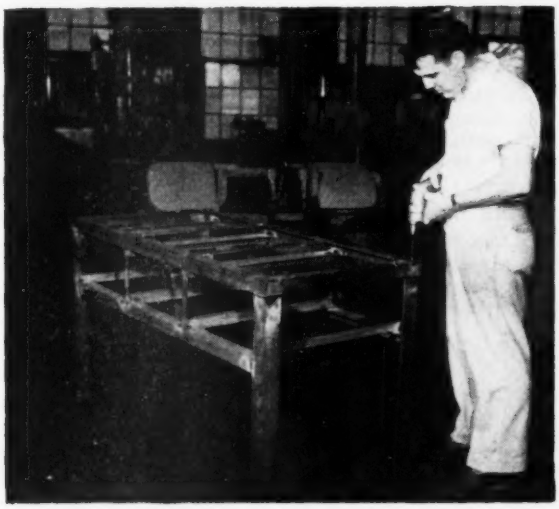
If the lap weight is correct, he places the lap on the truck at the back of the scale. He pushes the switch, and the scale moves to the next picker and stops itself. This procedure continues until three laps are on one side of the truck, and then the truck is quickly turned to receive the remaining two laps on the other side.

At the No. 5 picker, the truck is removed from the scale and pushed to the side, an empty truck is attached in its place, the starting switch is

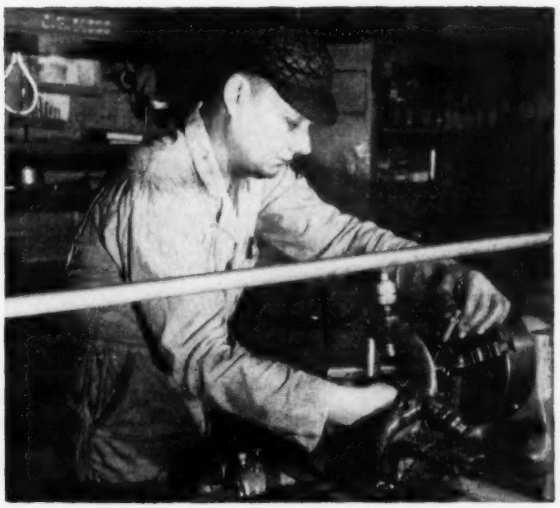


SHEARING-MACHINE EFFICIENCY is increased by the addition of this mercury switch and lever arrangement designed by maintenance men. Gouts that used to upset the cutting blades at stitcher seams now trip the mercury switch and prevent cut seams.

MACHINE-SHOP WORK includes making jigs, tools, and other equipment used by the shop itself. Welder William Stone is making a 60-gal. parts-cleaning tank to be used with a hoist in cleaning used machine parts that will be rebuilt in the shop.



LOOMFIXERS' WORKBENCH is being made by Mechanic Marshall Martin. The welded angle-iron frame will be topped with a 1½-in. hardwood top. Three steel drawers, one for a loomfixer on each of three shifts, will replace present wooden tool boxes.



THE WHIRLPOOL SHAFT for an X-model loom is being turned down at the worn bearing surface by Machinist James Moss. After the shaft is turned down, a bronze bushing 1½ ins. long, of 1-in. inside diameter and 1¼-in. outside diameter, will be placed on the turned surface.

pushed, and the scale returns to Picker No. 1.

The second hand of the carding department removes the tape from the scale at the end of each shift and checks the weight of every lap weighed during the shift. The lost laps must be laid aside to match each out-of-control weight lap shown on the scale tape.

This is a case where maintenance men and production men have worked together to reduce physical work and provide a constant mechanical supervisor to reduce off-quality work.

Machine Cleans Clearer Rolls

Farther along the production line in the spinning department, there's a new machine to clean revolving clearer rolls. The machine is a product of Acme Machine & Tool Co. and is connected to the vacuum-stripping waste-removal line installed by the maintenance department. This machine automatically cleans clearer rolls dropped into a two-tier scray an armful at a time. The removed waste goes to its proper bin automatically.

Another instance where the department overseer and the maintenance men have used equipment and ideas to reduce physical fatigue and increase production is in the slasher room. Empty and full section-beam handling and empty and full loom-beam handling are done with practically no physical effort.

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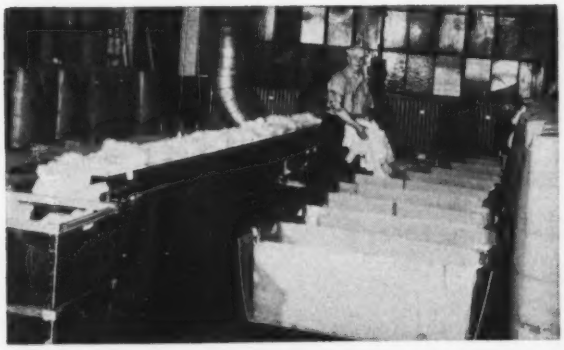
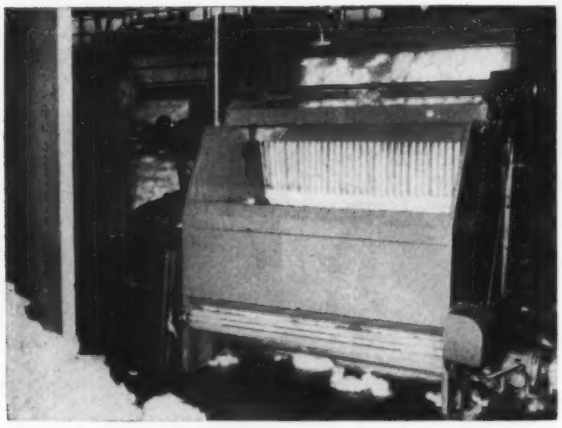


MIXING LINE is a powered conveyor section delivering into a Sturtevant fan with brass blades. Designed by the mill and made by a local tinsmith, the pipe going to the card room is 175 ft. long. Twenty bales, alternating dull and bright staple, go into a mix.



OPEN-END BIN (left) in front of cards collects the stock dropped from the pipe end (not shown), and a stationary collector dissipates the air. Enough stock to keep three cards going, 600 lbs. per hr., goes through the bin.

100-LB. PACKAGE is coiled by this mill-made delivery. The packing device works from dead-weight pressure. When the package is ready, the tin plate (bottom) is slid under the pile and the package is pulled across the floor. Card production is 200 lbs. per hr.

Rayon Yarns for Tufted Carpets Made

- The conveyor-blender system handles 600 lbs. per hr.
- Cards produce 100-lb. packages with a mill-made coiler—no cans
- Spinning follows four pin-drawing processes
- Mill-made winder makes up to 40-lb. packages

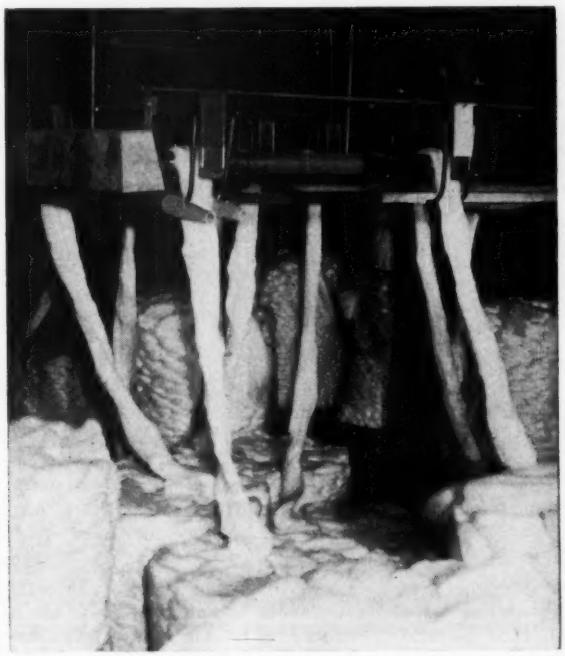
By **THOMAS B. WINSTON,** Assistant Editor, TEXTILE WORLD

MILL-MODIFIED AND MILL-MADE MACHINES are in abundance at Lehigh Spinning Co., Allentown, Pa. Lehigh makes rayon yarn for tufted carpets on a modified jute system. The yarn is said to be more even than yarn made on the woolen system but not quite as uniform as worsted yarn. But the cost per pound is said to be below either. Lehigh makes mostly one-run yarn, plus some half-run, from a half-and-half mix of bright and dull 5-, 6-, and 7-in. crimped staple.

Here is how Lehigh makes carpet yarn:

The mixing line is a simple pipe conveyor with the stock fan-driven to the card room. According to Walter Guthrie, general manager, the blending system cost about 10 times less than standard blending equipment for the same job. Designed by Lehigh's mechanical department, the overhead pipe line was built by a local tinsmith; and the power conveyor and fan were purchased to specifications. A stationary collector in the card room dissipates the air.

Mill-modified jute cards deliver 100-lb. packages. Three cards produce 600 lbs. per hr. from stock supplied by one blending line. The first drawing process is run from the 100-lb. piles of card sliver. From the cards on, there are 216 doublings. Four faller-bar drawing processes are used.



FIRST DRAWING PROCESS (faller-pin drawing) uses sliver from the 100-lb. packages piled on the floor. Lehigh has had little trouble with piles falling. The area underneath the creel is a composition-board flooring. Four drawing processes are used.

SPINNERS COOPERATE during doffing because of the group piece rate. Downtime during doffing is limited to 30 secs. Spinning frames are equipped with Pneumafil and a central lubrication system. Yarn is spun directly from drawing sliver.

on MODIFIED JUTE SYSTEM

Yarn is spun directly from drawing sliver, and cans holding 20 lbs. of sliver back up each spindle. Spinning frames make a 1.7-lb. package in a little over 2 hrs. With 72 spindles to the side, three spinners handle 10 frames and creel and doff their own frames. Production per frame is 60 to 110 lbs. per hr., depending on the yarn size. The jute frames have a second rail, with empty bobbins, that slides into place at the doff to limit downtime to 30 secs. A special knife is used to cut the yarn from the full bobbins, and the full bobbins are actually doffed by the spinners in their spare time. The spinning frames are equipped with Pneumafil and a Bijur central lubrication system. Automatic lubrication systems could be applied, but Lehigh prefers a 2-hr. one-shot schedule because it also provides good machine inspection.

Lehigh changed the creels on its Atwood twisters to take 10-lb. packages from the winders. Twisters are doffed on a progressive schedule with only two spindles stopped at a time.

20-Man Mechanical Department

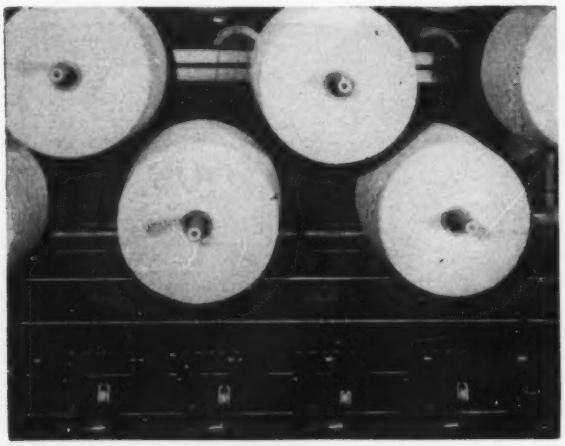
A 20-man mechanical department is a big department for a mill with a total of 200 employees. The department includes two draftsmen and one carpenter, and the rest are machinist-fixers and helpers. The machine shop is equipped to turn out special patented machinery for exclusive use at Lehigh.

Among other things, the mechanical department turns out complete precision winders for making up to 40-lb. packages. The only outside work done on the precision winders was foundry work on the patterns. Six are now in operation and another is nearing completion. The rayon winders are running at 300 rpm., but Lehigh is still experimenting with the best speed. The three-speed drive units that are used can be supplied in any speed range. One-shot lubrication systems are also used on the precision winders.

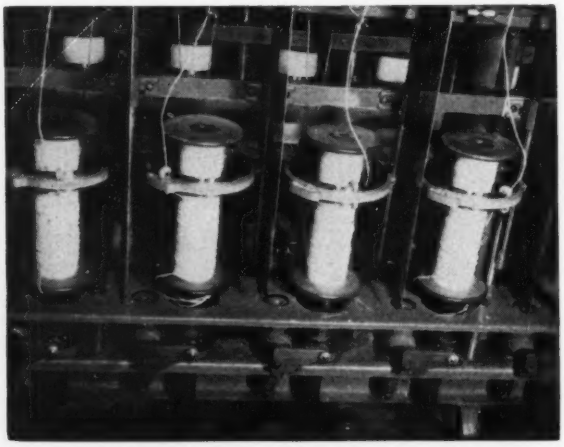
Major fixing jobs are handled by the mechanical department, and minor repairs and adjustments are taken care of by the assistant overseer on each shift.

Lehigh maintains a small super-

Twisting From 10-Lb. Packages

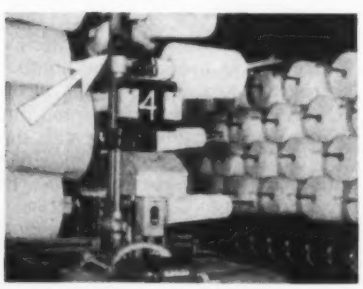


CONVERTED CREEL on Atwood twisters holds 10-lb. packages. Lehigh took off the swinging arm brackets, guides, and tensions and put on hollow tubes. The yarn is run back through the hollow tubes. This frame is two plying one-run yarn.



NYLON TRAVELERS last longer and run faster than steel travelers at Lehigh. With the Spool Cotton Co. nylon travelers, the twisters are running at 3,500 rpm. Steel travelers, used up to nine months ago, ran at about 2,750 rpm.

PROGRESSIVE DOFFING CYCLE keeps all spindles running except two at a time. The doffer starts at the first spindle and works around the frame. At normal speed, he doffs the last bobbin before it overruns. He starts doffing when he sees the light go on.



LIGHT GOES ON to show that the first bobbin is full and ready to be doffed. The frame doesn't stop. Twister operators for the 14 twisters are on a piece rate, as are all the machine operators at Lehigh.

visory force because of the group piece rates. The group rates encourage self-discipline, for the machine operators can make more money if they work together. Spinners help each other doff, for instance. Both the card and drawing operators are paid from the counter on the finisher drawing frame, with a fixed ratio in favor of the more-skilled drawing job. Under this system, employees with a tendency to loaf are brought into line by the group.

Mill-Made Precision Winder

THREE-SPEED PRECISION WINDER was designed and built at Lehigh. This machine is making a 10-lb. package with an 8-in. diameter for tufter creels, but up to a 40-lb. package has been wound. Winding speed is now 300 rpm.

What Was New *at the* ATLANTIC CITY SHOW

Trends of improvements—

• Higher speeds • More versatility • Better appearance • Larger packages

Four years of progress in textile machinery, equipment, and supplies was evident at the American Textile Machinery Exhibition in Atlantic City, N. J., April 26-30. Many manufacturers exhibited their products for the first time since the ATME in 1950.

On these pages, TEXTILE WORLD presents brief descriptions of new or improved products not shown before in a major textile exhibition.

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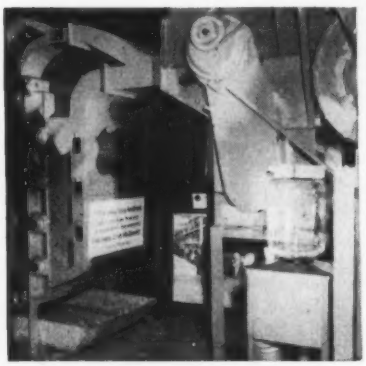
Opening Through Carding

No. 15 Opener

A precleaning unit to be used after blending feeders in a standard opening line, this No. 15 opener from Saco-Lowell Shops, Boston, Mass., improves over-all waste extraction through carding by 0.5%. The unit adds only 46 ins. to the length of an F-7, F-5, or F-2 feeder. The new unit gives additional cleaning and blending, helps keep beater speeds low in opening, and eases the load on the card. Neps are said to be unaffected by the No. 15 opener.

(A-1)

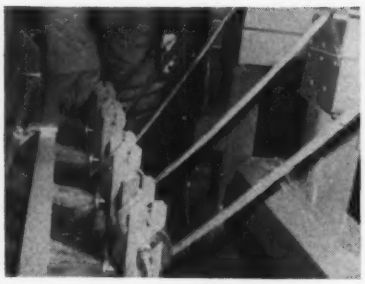


SRRL-Type Fiber Opener

Modifications on the original SRRL cotton opener that are now incorporated in the opener shown by Cen-Tennial Cotton Gin Co., Columbus, Ga., include a redesigned air flow at the bottom saw cylinder. Fiber bunches that contain heavy trash and that are not drawn out after one pass are recleaned by the bottom cylinder. Cleaning efficiency is said to be up 25% with this arrangement.

Cen-Tennial also showed companion equipment: its Separator (a combination condenser and cleaner) and its Aerator.

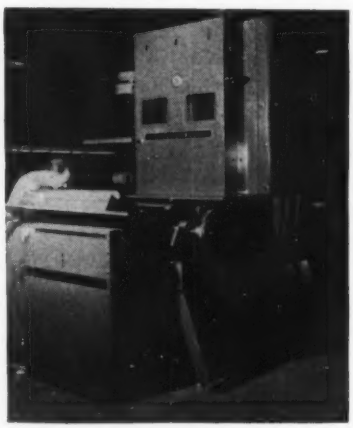
(A-2)



Metallic Card for Synthetics

Proctor & Schwartz, Inc., Philadelphia, Pa., unveiled a two-section synthetic card that was delivering 100 lbs. per hr. of four 100-gr. slivers made up of a 50-50 blend of 2-in. dope-dyed and 4½-in. bright rayon. The card has an 84-in. finisher section and 30-in. cylinders with four workers on each and can handle 1.5- to 17-den. rayon in lengths of 2 to 7 ins.

(A-3)



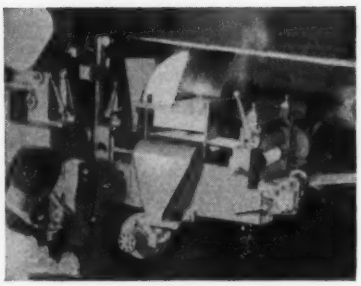
No. 16 Opener

To remove lightweight trash in opening, Saco-Lowell Shops, Boston, Mass., now offers this No. 16 opener—a cleaning unit consisting of a condenser that serves as a feed, a blending reserve, and a beater section. Floor space required is 9x5 ft., and a single 7½-hp. motor drives all the moving parts.

The No. 16 is designed to fit in the opening line after the blending feeder and the new No. 15 opener.

The carding beater, completely enclosed, runs at 800 to 900 rpm. and has a sturdy pinning arrangement. Neps are said to be prevented by the semicombing action of the No. 16.

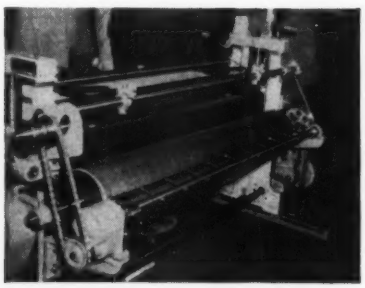
(A-4)



Pacific Converter Improved

A tow-heating unit that enables the Pacific Converter to stretch Orlon tow was shown by Warner & Swasey Co., Cleveland, Ohio. Feed capacity is about 1-million denier, and the unit can reduce denier from 3.0 to about 2.0. Other converter improvements include a can coiler, an extra knot detector for the tow-heating unit, and a new space-saving creel.

(A-5)



Woolen-Card Attachments

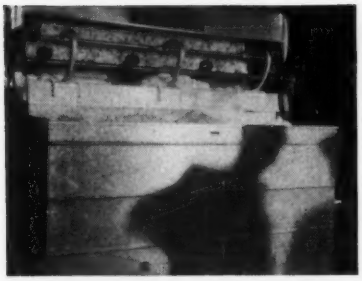
Peralta rolls now can have hydraulic loading for more-uniform pressure; and a new Peralta doffing device replaces the apron with a fillet-covered roll and doffing comb that allows a lighter web to be taken off, crushed, and condensed.

Double eccentric shafts with rub aprons 11½ ins. between centers and featuring the double-rub, four-bank tape condenser were also shown by Duesberg-Bosson of America, Inc., Jefferson, Mass. The eccentric shafts have sealed bearings, and apron tension is easily regulated. Eccentric stroke is automatically balanced during adjustment.

(A-6)

►A raw-stock, waste, and staple cutter that can cut from ¼- to 7-in. lengths was shown by Anderson Machine Shop, Inc., Needham Heights, Mass. Production is as high as 400 lbs. per hr.

(A-7)



84-In. Woolen Card

The Model L, a three-cylinder, 84-in. woolen card, was shown by Davis & Furber Machine Co., North Andover, Mass. The card has P.I.V. drives for the doffer drive, intermediate and feed rolls, and web tension. Doffer and worker speeds can be changed independently, as can angle-stripper speed. Fancy speed is also adjustable. Antifriction roller bearings are used throughout, and a fancy bonnet reduces fly and waste.

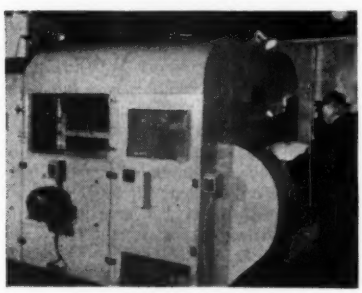
The Model G Bramwell feeder from George S. Harwood & Son, Worcester, Mass., has an enlarged scale pan for handling long grades and lofty stock at the high production of the 84-in. card—120 lbs. per hr. from the 192 ends at 100% efficiency.

(A-8)

Fiber Tinter

Unitint, shown for the first time by Textile Equipment Corp., Greenville, S. C., tints up to 1,200 lbs. per hr. with even color distribution and elimination of tags and soggy batches. TW's Jim Kennedy (right) is shown examining the redesigned nozzle section of the machine.

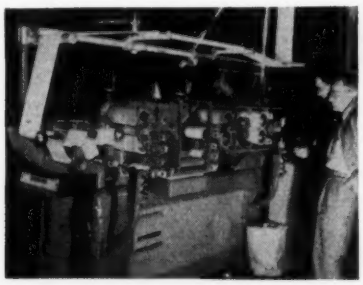
(A-9)



Automatic Can Changer

A turntable arrangement that holds three sliver cans and automatically revolves a full can to doffing position and places an empty can in running position under the coiler head of a card or comber was shown by American Rieter Co., Inc., Arlington, N. J. This device has been in use in Europe six or seven years and is now being introduced to U. S. mills.

(A-10)



Tow-to-Sliver Machine

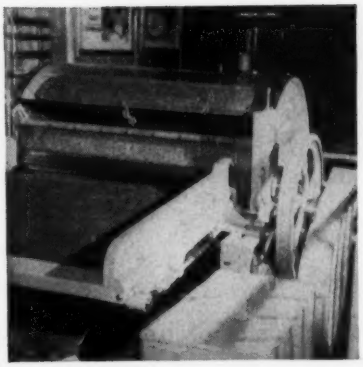
The Turbo Stapler, shown by Turbo Machine Co., Lansdale, Pa., stretches and breaks tow to make sliver. The stapler, with its accompanying crimp setter, can change fiber characteristics markedly by varying crimp, reducing denier, and altering elongation characteristics. Of particular interest is the blending of 60% relaxed and 40% unrelaxed Orlon yarns, the tow for both having been processed on the stapler. In finishing, the unrelaxed fibers cause the relaxed fibers to bulk up and give greater loft to the yarn.

(A-11)

Backwasher Dryer

An entirely new backwasher dryer—single-apron, single-pass—was shown by C. G. Sargent's Sons Corp., Graniteville, Mass. As many as 48 3-oz. ends have been dried at 15 ft. per min., or 700 lbs. per hr.

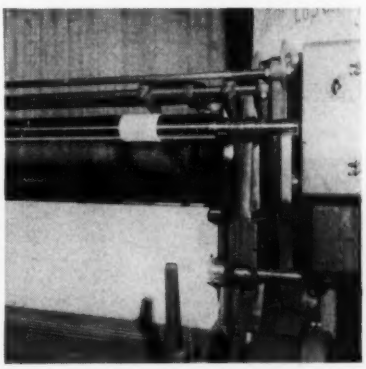
(A-12)



Woolen-Type Picker

A woolen-type picker for natural or synthetic fibers was shown by C. G. Sargent's Sons Corp., Graniteville, Mass. The 48-in. model produces 1,500 lbs. per hr., and the picker is also available in widths from 18 to 72 ins. There can be up to 17,000 picking points on a 48x34-in. cylinder.

(A-13)



Picker-Lap Changer

An automatic mechanism for removing a full lap from the calender rolls of a picker and starting a new lap was shown by American Rieter Co., Inc., Arlington, N. J. Available in Europe for some years, the lap changer is now being introduced to U. S. mills. The present model can be used only for 40-in., 30-lb. laps.

When the proper length of lap is run, a trigger sets the mechanism to work; the loggerheads raise, arms push the full lap off the calender rolls onto a lap pan in front of the calender roll, a new pin is dropped into running position, and the loggerheads are lowered again.

(A-14)

► The Precarder, an opening machine for the woolen system, was announced by William Schofield Co., Inc., Philadelphia, Pa. The machine comes in 42-, 48-, and 60-in. widths to deliver up to 5,000 lbs. per hr. Six 8-in. workers with different pinning run at different speeds on a 35-in. main cylinder.

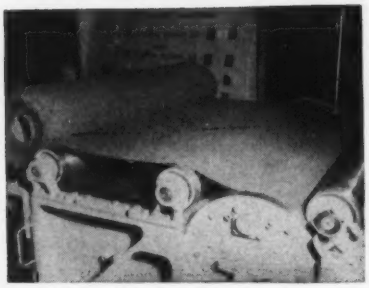
(A-15)

Automatic Blending System

The Fiber Meter, which is not a new machine, was shown publicly for the first time by Textile Equipment Corp., Greenville, S. C. The machine, used in battery, automatically proportions blend components by weight with maximum variation of 1%.

Fiber, fed from the hopper, is weighed in the front box.

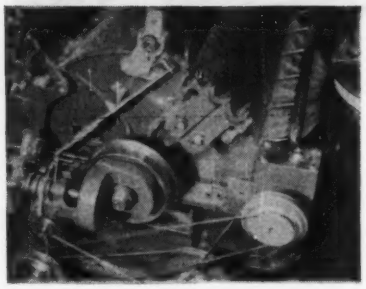
(A-16)



Random-Web Process

The Rando-Webber and Rando-Feeder were shown by Curlator Corp., East Rochester, N. Y. The nonoriented web can be made paper thin or 2 ins. thick, and the machine has wide application for nonwoven and laminated fabrics. Widths are 40, 60, and 84 ins. A ¾-in. cotton shoddy was being made into a 6-oz.-per-sq.-yd. lap at 100 lbs. per hr. at the show.

(A-17)



Cotton-Card Feed Control

Piecing up after vacuum stripping is no longer necessary with an attachment now offered by Abington Textile Machinery Works, North Abington, Mass. The feed is stopped manually, stripping takes place after the carriage is pushed across, and then the new device automatically starts the feed and times the doffer comb to start precisely when the doffer is loaded.

(A-18)

☆ Drawing Through Spinning ☆

Whitin's Roto-Drafter

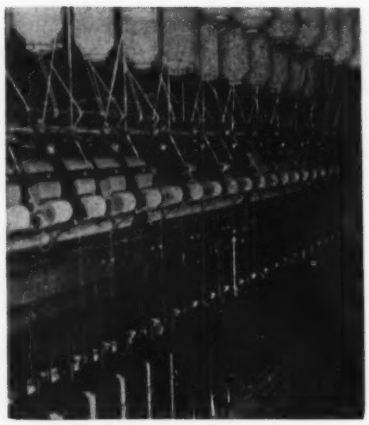
A versatile machine to produce top for the American system, the Roto-Drafter from Whitin Machine Works, Whitinsville, Mass., is a four-delivery machine featuring a porcupine-like pinning arrangement. Pin bars change their angular position in relation to the cylinder surface.

Two of the heads can be run as breakers, two as finishers, or all four can be run as breaker, intermediate, or finisher.

The pins can be slipped out and a roll substituted to make a three- or four-over-five drawing frame called Rolo-Drafter.

The complete Whitin American system now consists of three operations of Roto-Drafting, Quick-Set roving, and Superflex spinning.

(A-19)



SG-1 Spinning Frame

Gwaltney spinning was on public exhibit for the first time at the booth of Saco-Lowell Shops, Boston, Mass. Mill-proven reasons for this frame's performance are said to be:

4-in. gauge—allows large packages to be made.

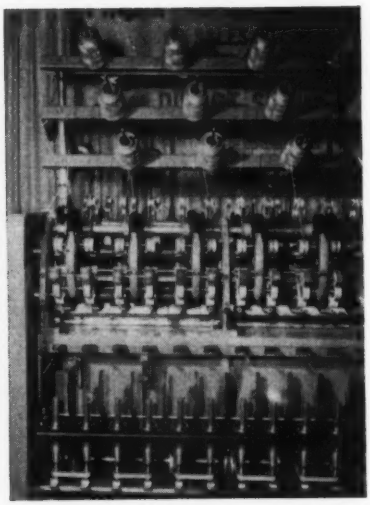
New-Era spindles—ball bearings eliminate vibration and don't need oil.

Longer doffing cycle—running time in hours roughly equals yarn number.

Tension—uniformity in tension allows scientific traveler selection.

Good twist distribution, large packages, and improved drafting are other points said to be responsible for SG-1 performance.

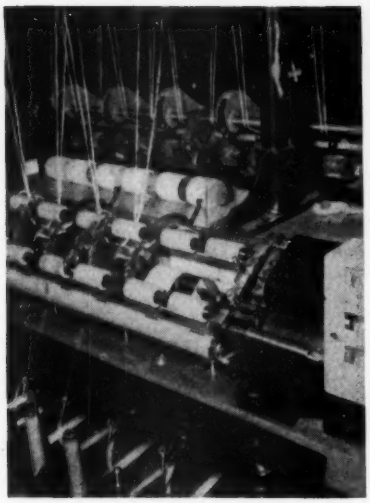
(A-20)



Direct Spinning Frame

The Stains Direct Spinner, which spins 9s to 105s yarn (cotton number) from 2,000- to 8,000-den. tow, was shown by Whitin Machine Works, Whitinsville, Mass. A rotating prism breaks the fibers into predetermined lengths, and then the still-parallelized strand is spun in the usual manner. All nonplastic filaments can be handled, and recommended drafts are 10 to 40. Yarn numbers from 18s to 30s can be made from 1.5 den. stock: for example, 9s from 2.5-den., and 105s from 0.5-den. stock.

(A-21)

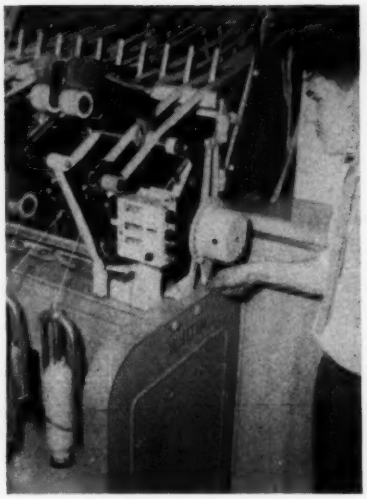


Duo-Roth Spinning

The advantages of both the Roth single-belt system and the conventional two-belt system are said to have been captured by Saco-Lowell Shops engineers in the Duo-Roth drafting assembly. The change-over for two spindles consists of an anti-friction-bearing middle top roll, an adjustable cage with spacers, two synthetic top aprons, and two leather bottom aprons.

Duo-Roth is available in three series: SDR-1 for SR-1 frames; SDR-2 for SR-2 frames; and SDR-3 for roll stands that can be given a setting of 1 11/16 ins. front to middle, 1 13/16 ins. middle to back bottom rolls, on centers.

(A-22)

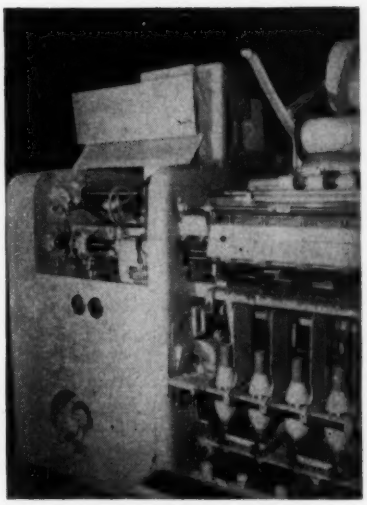


Quik-Set Roving Frame

Top-arm weighting, center-suspended rolls, and quick ratch change are the features of the Quik-Set roving frame shown by Whitin Machine Works, Whitinsville, Mass. Cap bars, conventional saddles, and back bar blocks and arms are all eliminated. Weight on the top front roll can be read directly on a scale in the vertical front surface of the arm.

The drafting system has the double-apron system with a recessed, knurled, middle top apron roll. Fibers from 2¼ to 8¾ ins. can be handled. All you have to do is turn a handle and watch a gauge to change the ratch. The frame can handle worsted sliver up to 100 grs. and synthetic sliver to 120 grs. per yd.

(A-24)

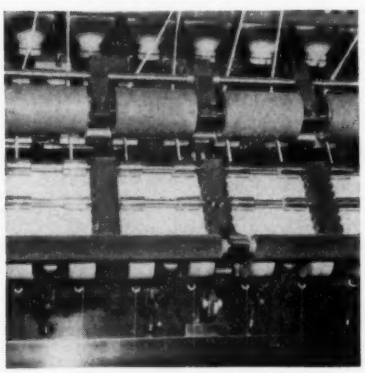


Flex-Spin Woolen Frame

Large packages and instantly changeable speeds are features of the Flex-Spin woolen spinning frame for 3/16 to 9 run and finer shown by Whitin Machine Works, Whitinsville, Mass.

No gear changes are necessary with the Vari-speed drive. The builder motion is entirely enclosed in the head end. A handwheel governs twister-head speed. Other features include: centralized lubrication, up to 12-in. traverse, a simple reverse-twist mechanism, and tachometer for twister-head and front-roll speeds.

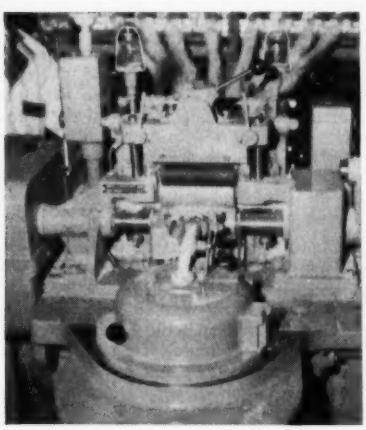
(A-26)



Worsted Spinning Frame

A worsted-system spinning frame that can handle fibers 1 to 12 ins. long was shown by Societe Alsacienne de Constructions Mecaniques, whose U. S. agent is Atkinson, Haserick & Co., Boston, Mass. Each side of the frame can be operated independently and on different yarn numbers. Tachometers indicate front-roll and spindle speed. Either French roving or twisted roving can be drafted with equal ease on the single-apron drafting system with four adjustable slip rolls.

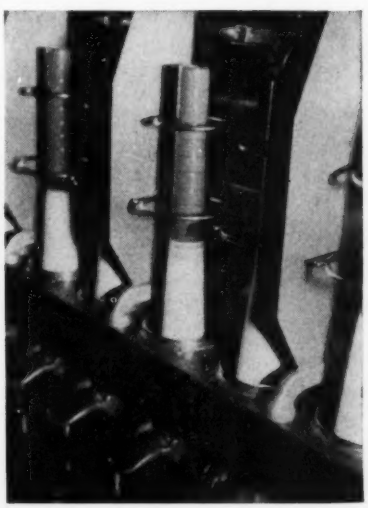
(A-23)



Single-Head Pin Drafters

Two new single-head pin drafters designed mainly for smaller mills were shown by Warner & Swasey Co., Cleveland, Ohio. Setover is 6 ins., faller speed is 1,500 drops per minute, and entering weight can be 3,500 grs. per yd.

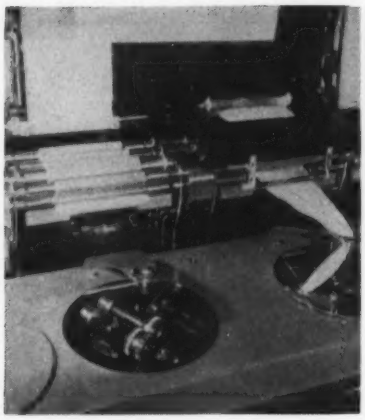
(A-25)



Large-Package Spinning Frame

A model spinning frame equipped on one side for running 12-in. bobbins with 3-in. rings was shown by American Rieter Co., Inc., Arlington, N. J. The frame has a movable ring rail and spindle rail, two rings for controlling yarn balloon, a spring-weighted arm for top-roll weighting, ball-bearing rolls, and synthetic roll covers.

(A-27)



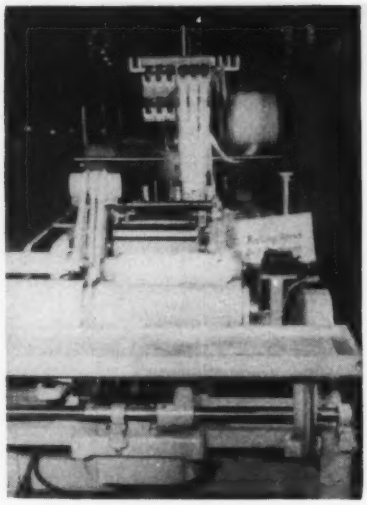
Four-Over-Five Drawing

Model DS-4 is the name given Saco-Lowell Shops' four-over-five drawing, which uses a third drafting zone for high drafts and is available for 18-in.-gauge frames. Drafts in the final zone are well under 8.0 since break draft is 1.25 to 1.50 and intermediate draft is 1.75 to 2.0.

One installation is producing 55-gr. sliver at 18.5 lbs. per hr. Doffing cycle is almost 1 hr. with 15x42-in. cans, and one operator handles 56 deliveries.

The Positube coiler, which can be applied to all drawing frames assembled on a 5-roll chassis, was exhibited on the four-over-five drawing frame. The assembly replaces the conventional calender roll and tube gear to eliminate static problems often encountered with standard tube gears.

(A-28)

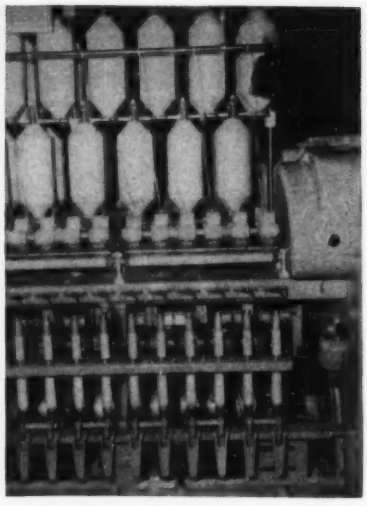


Two New Gill Reducers

A balling-head gill reducer and a single-head, four-delivery unit were presented by Holdsworth Gill Screw Co., Inc., Pawtucket, R. I. The balling-head machine has a very low silhouette (41 ins. high) and a Continental-type baller motion that can deliver two 30-lb. balls of 3¾-oz. top. The machine is available in single or double heads, single or double delivery.

The four-delivery gill reducer has a 11½-in. setover, over-all faller length of 13¾ ins., and a 1¾-in. small nip roll and can handle up to 170,000 grs. per head at the feed.

(A-29)

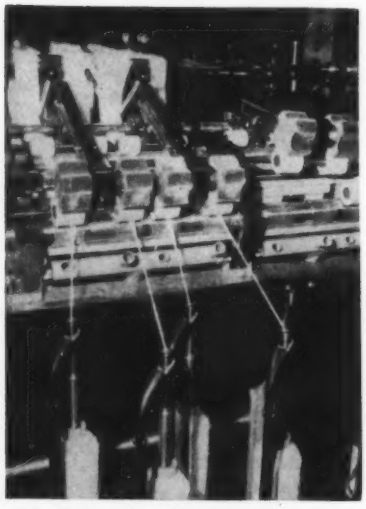


Superflex Spinning Frame

Whitin Machine Works' answer to problems of present-day cotton and spun-synthetic spinning is the Superflex frame. With a width of 39 ins., this frame offers 8- to 11-in. traverse and can handle up to 3½-in. fibers with the appropriate cradle in the Super-Draft system.

The head end has been redesigned and streamlined, and construction is sturdy throughout. Climax ball-bearing top rolls for the front line and Cleandraft non-lubricated top rolls for the middle and back line are standard equipment. Top rolls are top-arm suspended.

(A-32)



F-5 Roving Drafting

Successful drafting of longer-staple wools and synthetics is the aim of Saco-Lowell Shops' F-5 drafting element for roving. Staple lengths of 1½ to 9 ins. can be handled in finenesses from 48s to 70s or equivalent. Minimum ratch is 3 1/32 ins. without a slip roll and 4 1/16 ins. with one.

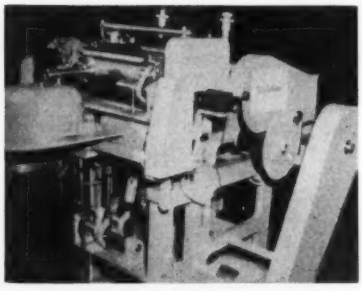
An apron passes over an apron bar and bottom roll and works with a single top middle roll to control both long and short fibers at the same time. Lap-ups are prevented by a new design of apron bar that permits close setting of the apron to larger front rolls.

(A-30)

► Shown for the first time by Saco-Lowell Shops, Boston, Mass., were these developments:

- Card control rolls to help break up fiber bunches before the lickerin transfers them to the cylinder
- Roller-bearing comb box
- Antifriction bearing compound for roving frames
- Robbinette spinning rings

(A-31)



Top-Breaking Gill Box

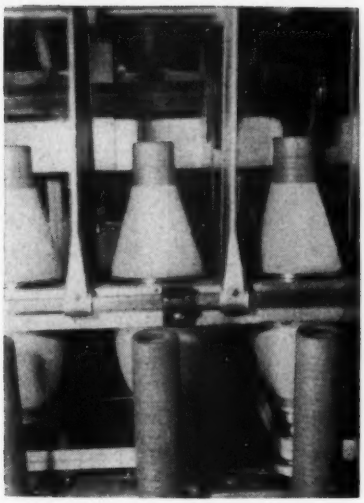
The Holdsworth Top Breaker, an intersecting gill box with an extra set of front rolls to break top, was shown by Holdsworth Gill Screw Co., Pawtucket, R. I. The fallers present a web of parallelized fibers to the breaking rolls. It can also be operated as a drawing operation.

(A-33)

► The Cleanalign saddle, which eliminates cap bars and is said to reduce picking costs by at least 75%, was shown by Product Sales, Inc., Whitman, Mass. Side piecing is possible, and the rolls swing up for cleaning.

Sureweight, also shown, is a weight-measuring device recommended for accurate determination of weighting on spinning and roving frames.

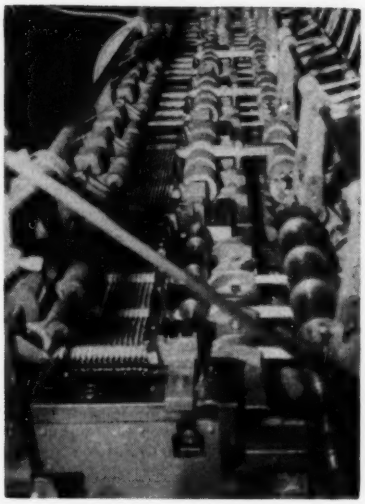
(A-34)



Woolen Spinning Frame

Several improvements on the Model F spinning frame were shown by Davis & Furber Machine Co., North Andover, Mass. The new variable-speed drive for the cylinders eliminates 27 change gears. The Vari-pitch sheave gives twist changes from full turns to tenths of a turn. The ball-bearing spindles need no oil and are furnished in paper-tube or wooden-bobbin types. With the paper tube, production of 3-run yarn with 10 tpi. is 0.16 lbs. per sp. hr. at 118 rpm. of front roll, 5-in. ring.

(A-35)



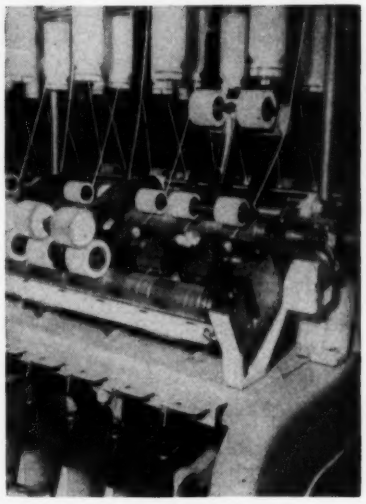
Cone Gill Reducer

A worsted-system roving frame that uses faller drafting and no rub aprons was shown by Societe Alsacienne de Constructions Mecaniques, whose U. S. agent is Atkinson, Haserick & Co., Boston, Mass. Each faller has four 1½-in. setovers for four spindles. Maximum flyer speed is 960 rpm., and the rear set of rolls can draft up to 2.2. Front-roll speed is up to 35 yds. per min.

(A-36)

▶ American Rieter Co., Inc., Arlington, N. J., showed its twin-sliver-delivery drawing frame running with 14-in. sliver cans.

(A-37)



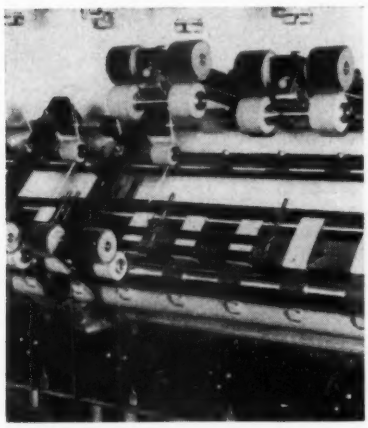
American Superflex Spinning Frame

Special drafting assemblies are mounted on a Superflex spinning chassis to make Whitin Machine Works' Superflex spinning frame for the American system.

Maximum traverse is 11 ins., and the frame can be adjusted to 8 ins. if desired. Ring sizes are 1¼ to 3½ ins. in normal gauges of 4 or 4½ ins.

Fibers from 2½ to 8¾ ins. can be drafted effectively on the double-apron long-draft system, and 100% production of 9s worsted is 2.3 lbs. per sp. hr.

(A-40)



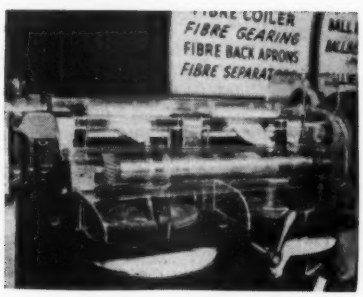
Z-6 Drafting Assembly

For fibers from 2 to 7 ins. long, Saco-Lowell Shops' Z-6 drafting assembly is now offered for the Gwaltney chassis. Only 4-in. gauge is presently available. Creel and area below the roller beam are the same as on the SG-1.

Z-6 roll stands are set at 45°, not 60° as on the SG-1, to allow the slip rolls to function properly. Below the apron bar, however, the stock turns upward 15° to give a slight snubbing action for extra fiber control.

The assembly consists of roll stands, the top and bottom rolls, apron unit, weight horn, slip rolls, and clearers.

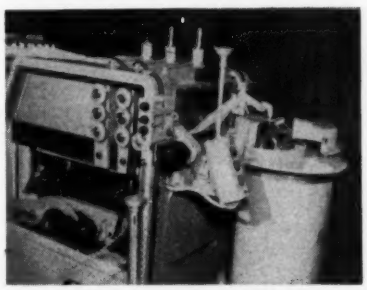
(A-38)



Ideal's Drawing Frame

A drawing frame running at 252 ft. per min. was shown by Ideal Industries, Inc., Bessemer City, N. C. The frame is equipped with Ideal's high-speed drafting system, ball-bearing gear studs, fibre gears, and a ball-bearing tube gear. The spectacle and back apron are made of fibre to eliminate static.

(A-39)



Top-Breaking Machine

The Sizer, the top-breaking machine shown by Southwell Textile Machinery Research Corp., North Chelmsford, Mass., produces at about 300 lbs. per hr. and can break synthetics, wool, mohair, and other fibers to a uniform maximum length of as little as 1¾ ins. Top roll is positively driven to improve evenness. A new coiler holds stock in the horn to prevent false drafting.

(A-41)

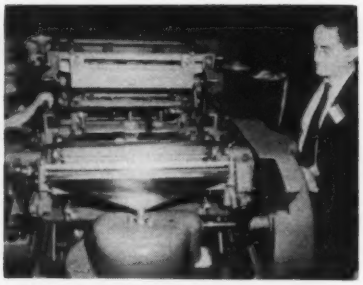
▶ Conversion of worsted combs to 15-in. cans, either from a kit or as a complete conversion, was demonstrated by James Smith & Son, Inc., Worcester, Mass.

(A-42)

High-Speed Pin Drawer

A faller-type pin-drawing machine of the intersecting type was shown by Stellite American Corp., New York, N. Y. The two heads can deliver 30- to 600-gr. sliver, and two cans per head can be furnished. Draft is 4 to 11. Faller speed is up to 1,200 drops per minute. Setover is 8¼ ins. The two heads can produce 500 lbs. per hr. of 500-gr. sliver at 70 yds. per min. with a draft of 7.0.

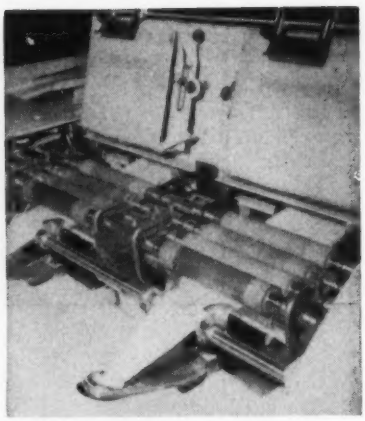
(A-43)



Rectilinear Comb

Up to 30% greater production (to 40 lbs. per hr. on recombing) is claimed for the rectilinear Sant' Andrea comb shown by Ernest L. Frankl Associates, New York, N. Y. A new curved oscillating motion for the nipper gives better combing and clearer tops. No adjusting gauges are needed; graded scales are provided for all important adjustments. Speed is 120 nips per minute.

(A-44)



Even-Draft Drawing Frame

This four-over-five-roll drawing frame from Whitin Machine Works, Whitinsville, Mass., handles ⅞- to 3-in. fibers with minimum roll-setting changes and at a front-roll speed of 150 ft. per min. Either six or eight ends up can be handled. The principal draft occurs between the second and third rolls.

An electric clutch eliminates the loose-pulley arrangement. The spring weighting can be instantly relieved by rotating a handle. A new sliver table brings the cans 10 ins. closer to the lifting rolls to eliminate stretching. At 80% efficiency, 20.6 lbs. of 60-gr. sliver can be produced.

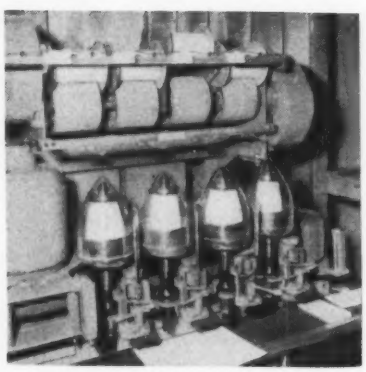
(A-46)

▶ Pendulum-weighted arms that eliminate hooks, saddles, and weights were shown on a spinning frame by SKF Industries, Inc., Philadelphia, Pa. All the rolls are set with a gauge. The spring-loaded rolls reduce inertia effects of dead weights, and the front rolls are easily removed for cleaning. The arm is quickly raised for removing aprons, and it will snap down into position like the hood of a car.

A double-row, ball-bearing tension pulley was also shown. The grease chamber is stationary and needs regreasing only after 20,000 working hours.

(A-45)

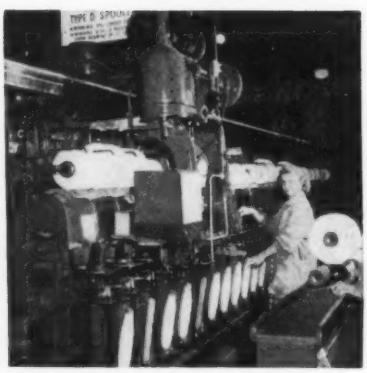
☆ Twisting and Winding ☆



Deering, Milliken's Rocket

The Rocket, a change-over 2-for-1 spindle for uptwisters, was developed by Deering, Milliken Research Trust, Pendleton, S. C. Filament rayon, acetate, nylon, Dacron, and Orlon can be twisted with or without initial twist and in deniers from 30 to 210. Twist can be inserted at 31,000 turns per minute. Tension is controlled within 5% from start to finish.

(A-47)



Spooler Winds 6-Lb. Cheeses

A new automatic spooler that was producing 6-lb. cheeses was on display by Barber-Colman Co., Rockford, Ill. Winding speed of the 39s combed yarn was 1,200 yds. per min. from 12-in. bobbins. The driving drum, clutch, brake, and motor are placed at the back of the beam.

(A-48)

Heat Setter on Twister

A double-deck twister with a twist-setting device was shown by Fletcher Works, Inc., Philadelphia, Pa. The twist is set as the yarn passes through a heating element at 350° F. The electrical heater-controller runs off the 110-v. supply and is fixed to the frame end to reduce residual shrinkage. The spindle speed was 13,200 rpm., and 30-den. nylon was twisted from a 2-lb. package with 10 tpi. to a king spool.

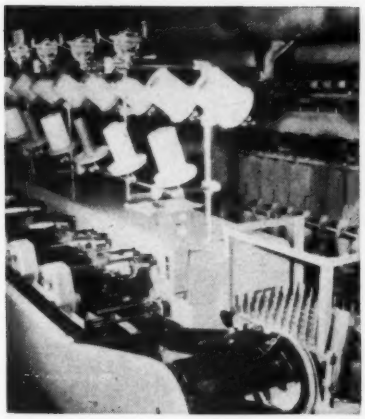
(A-49)

Double-Deck Uptwister

A double-deck uptwister was shown by U. S. Textile Machine Co., Scranton, Pa. A rapid-change adapter that takes an iron head or a tapered-tube package is a feature of the machine, which is also equipped with a stop motion for a full package and a self-threading guide.

A new type of traverse allows a rapid change of traverse. The machine was running 40-den. Dacron and 70-den. nylon at a spindle speed of 12,500 rpm. and inserting 10 tpi.

(A-50)

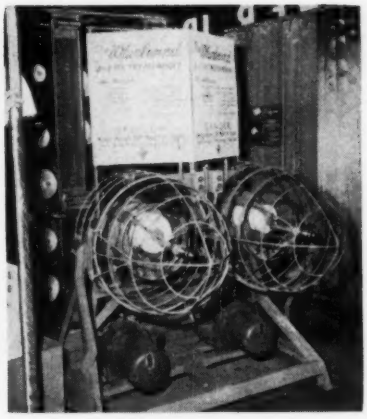


Speed-Matic Filling Winder

The Speed-Matic filling-bobbin winder shown by Whitin Machine Works, Whitinsville, Mass., winds at 12,500 rpm.; but speeds of all other motions are less than 1,000 rpm. for longer wear. The use of subassemblies eliminates the need of stocking complete spare winder units.

Units are available in single or multiple units of four spindles. Normal total unit sizes are 4, 6, or 8 spindles and combinations to 24 spindles. An empty-bobbin loader is standard, and a pinboarding mechanism can be furnished. Other features include an improved traverse and a new creel for cones of any size, cheeses, twister packages, and tubes.

(A-51)



Deering, Milliken's Whirlwind

This twister-winder developed by Deering, Milliken Research Trust, Pendleton, S. C., winds at up to 150 yds. per min. while plying 2 to 120 ends with a twist of 0.85 to 7 tpi. Maximum package diameter is 11¾ ins., and maximum weight is 30 lbs.

On regular production of an 11,000-den. cord made with 2.5 tpi. from five plies of 2,200-den. rayon yarn, each spindle yields 16.4 lbs. of cord per hour at 111 yds. per min. Speed is 5,000 rpm., and so 10,000 turns are inserted every minute.

Manufacturer of the Whirlwind has not been announced.

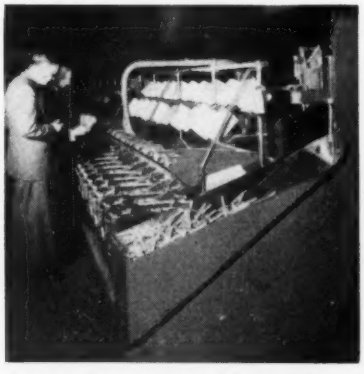
(A-53)

Automatic Cone Winders

An automatic cone winder running at the booth of Foster Machine Co., Westfield, Mass., has an automatic tender traveling on a rail around the frame that allows one operator to tend 100 spindles.

A 24s single combed yarn was being wound at 550 yds. per min. The tender finds the ends, brings them into position, threads them, and ties them together. The operator places bobbins in the frame, and they are automatically placed in position.

(A-55)



Automatic Filling Winder

A fully automatic filling winder was shown by Scharer Textile Machine Works, Zurich, Switzerland. There are 10 heads on each spindle, and all moving parts are protected by safety clutches.

A V-belt drives the spindles, hopper, stacking device, and a fan that keeps the tension disks clean. A suction device draws in lint and sends the air through a filter bag. A swivel creel allows the operators to creel packages at the frame back. A conveyor band takes bobbins to the end of the frame and stacks them automatically on the pinboard.

(A-52)

Vertical Redraw Frame

A vertical redraw frame was shown by Universal Winding Co., Providence, R. I. The frame has a tension device to apply additional tension during the taper as the yarn guide lifts. This tension reduces sloughing off during the throwing process. The tension device operates from a simple traverse mechanism from a bent rod on the machine end frame.

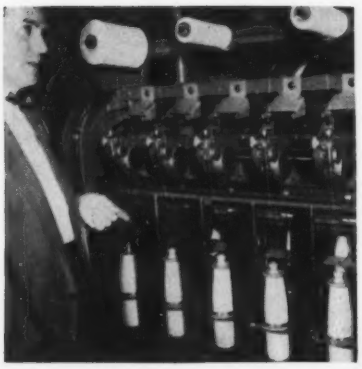
The frame was running 40-den. nylon yarn at 700 yds. per min. on 2-lb. taper-top redraw packages. An oiling trough, a short traverse guide, and a yarn cleaner are provided on the machine.

(A-54)

Cable-King Uptwister

A single-deck uptwister, Cable-King, from Whitin Machine Works, Whitinsville, Mass., takes the 9-lb. package from the Ply-King uptwister and makes a 9-lb. headless or double-head package. The four-spindle tape drive has a 90-degree tape contact on the whorl for uniform drive. Either the Type 669 BB or Dinamic spindle can be used. Other features are: balloon guides, circular separators, ball-bearing take-up rolls, and double-flange package take-up.

(A-56)

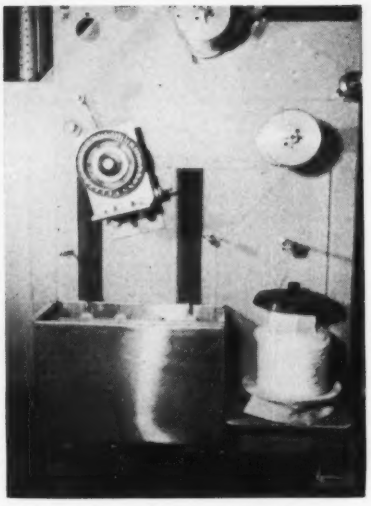


Wet Twister

A wet twister on display at the booth of Universal Winding Co., Providence, R. I., has a pipe stretching across the machine behind the feed rolls. A flexible pipe leads water to a small orifice on a guide plate over which the yarn runs. The excess water drips down a channel on the guide plate and falls into a waste pipe.

The twister has a 9-in. lift and a 4¾-in. ring. It was running at a spindle speed of 6,500 rpm.

(A-57)



Yarn-Stretching Machine

A prototype yarn-stretching machine was shown by Walter Kidde & Co., Inc., Belleville, N. J. The yarn runs through a bath at 200 yds. per min. at ½ to 7 lbs. tension. The yarn is wound at a constant speed on perforated bobbins to facilitate drying by an electronic drive.

(A-59)

Bobbin Stacker for Quillers

An automatic bobbin stacker for the Abbott standard quiller was shown by Abbott Machine Co., Inc., Wilton, N. H. Emerging from the delivery chute, about 16 bobbins are placed in a row. A sweep arm pushes a full row of bobbins into a stacker and falls to receive the next row. When a certain depth of bobbins has been made, the box is moved to a conveyor and a new box is dropped in position.

An automatic pinboard attachment for radial quillers was also shown by Abbott.

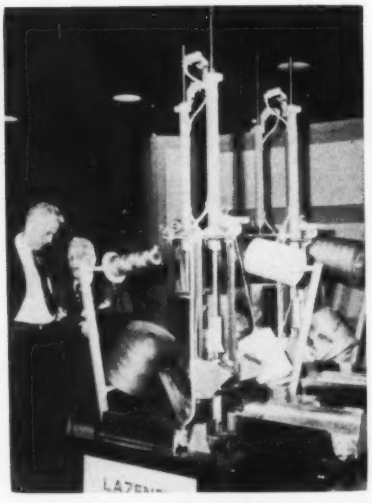
(A-61)

Automatic Filling Winder

An automatic filling winder in operation at the booth of Foster Machine Co., Westfield, Mass., was demonstrated by the inventor, Harold Muschamp. Rayon yarns were being wound at a spindle speed of 15,000 rpm. One operator can wind 5,000 lbs. of 150-den. yarn in 8 hrs.

A stacker drops a pirn from the hopper chute into each empty cup that travels around the frame. The magazines are kept supplied from the cups, and the pirns are placed into position for winding. The fully wound bobbin drops on a conveyor cup and is delivered to a secondary receptacle tray. The tray moves one step as a bobbin drops into it, until eight bobbins have accumulated, when the tray moves forward and places the bobbins on the pinboard. The pinboard moves one row at a time as it is loaded, and when full it is moved to a conveyor belt and carried away.

(A-58)

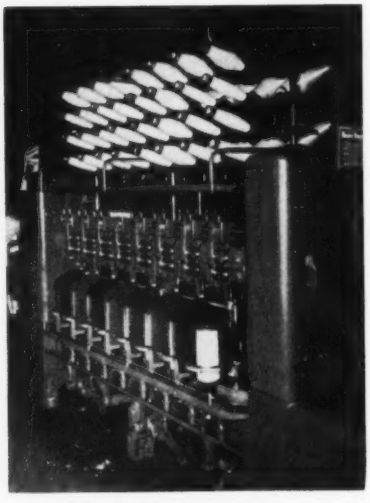


Automatic Cop Winder

An automatic cop winder for cotton, jute, and paper was shown by The F. A. Lazenby Co., Baltimore, Md. The winder is fully automatic and makes cops up to 18 ins. long. The cops are automatically doffed by air-operated levers controlled by a Micro switch.

The spindle is in a vertical position and was running at 3,500 rpm. Battery creeling enables work assignments to be extended. The cops are placed in a receptacle on the machine front. A knife cuts the yarn after a new cop is started.

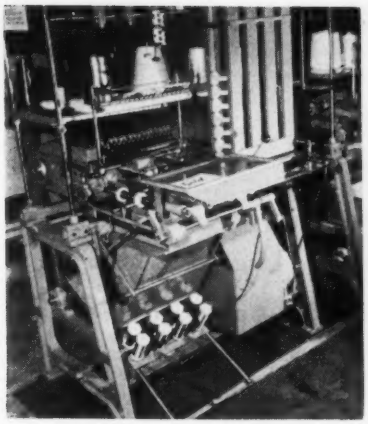
(A-60)



Doubling Twister

A doubling twister for heavy-denier yarns was shown by U. S. Textile Machine Co., Scranton, Pa. The machine had 6-in. rings and a 2-in. traverse. Three ends of Fiberglas yarn were being twisted on one side of the frame, and a single 1,600-den. rayon yarn was twisted with 4.4 tpi. on the other side. Packages up to 7 lbs. were being produced.

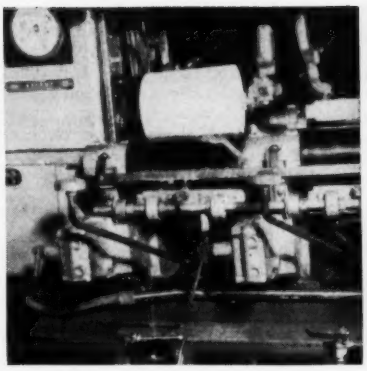
(A-62)



Braiding-Bobbin Winder

A braiding-bobbin winder was shown by Plutte, Koecke & Co., Wuppertal-Barmen, Germany. The winder is fully automatic. A tension compensator is fitted to each spindle. The pin tray has plush separators for rayon yarn, and the machine stops when the tray is full. The winder can also be used for parallel-wound bobbins and for rubber-covering threads.

(A-63)

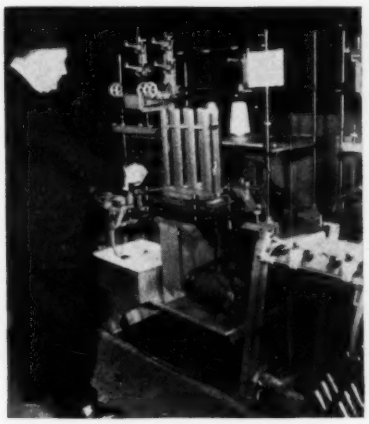


Yarn Lubricator

A yarn-conditioning system that can be fitted to conventional winders was demonstrated on a Roto-Coner by Kearny Mfg. Co., Kearny, N. J.

The tank containing Hygrolit or a conditioning fluid sits under the frame, and a pump on the tank moves the fluid to the pads that press on the traverse roll. The amount of fluid taken up by the yarn depends upon the time the pad presses on the roll. This time is controlled by an electromagnetic clutch.

(A-64)



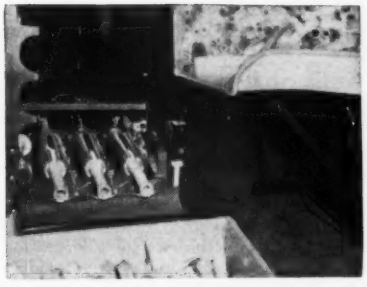
Sewing-Thread Winder

A sewing-thread cheese winder was shown by Plutte, Koecke & Co., Wuppertal-Barmen, Germany. The winder is fully automatic with a precision wind. A measuring device stops the winder at any given length. The machine on show had four spindles, and the threads pass around a series of wheels that are interconnected to drive the counter.

(A-65)

CONTINUED ON PAGE 236

☆ Yarn-Production Accessories and Supplies ☆



Roving-Bobbin Cleaner

Cotton, synthetic, or wool waste can be cleaned from roving bobbins on the Type M cleaner shown by Terrell Machine Co., Inc., Charlotte, N. C. About 60 bobbins per minute is the speed. Bobbins are dropped into a hopper, manually fed to the cleaner, and ejected into a roving box when clean.

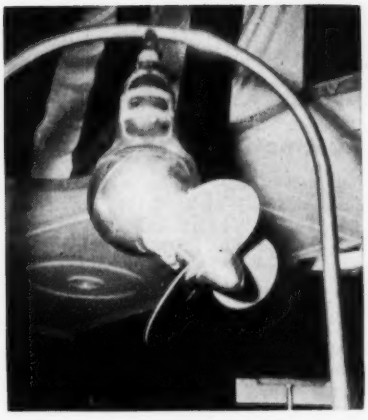
Also shown by Terrell were a foolproof counter for the Type K cleaner, a bobbin inspector that puts only clean ones in the box and conveys only recleans back to the operator. The new Terrell conveyor system for bobbins can handle pinboards or loose bobbins up to 60° climb.

(A-66)

Frame Cleaner

A frame cleaner with underframe and floor-cleaner attachments was shown by Parks-Cramer Co., Fitchburg, Mass. The cleaner rides on a rigid two-rail track attached to the frame. Air currents from sleeves and outlets on each side of the frame clean the upper frame parts and the underframe.

(A-67)

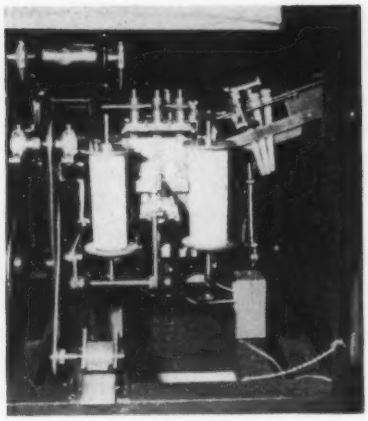


Trackless Overhead Cleaner

Zephyl, the fan that revolves in almost a complete circle to clean spinning frames from overhead, was shown by Stellite American Corp., New York, N. Y. The rubber-bladed fan uses about 60 w. per hr., needs no rails because individual units are suspended from the ceiling, and costs about $140.

(A-68)

 For more information circle A-number on Reader Service post card.



Bobbin Refinisher

A bobbin-refinishing machine that can be fed by a Terrell bobbin stripper was shown by Glenwood Machinery Associates, Inc., Newark, N. J. The bobbins fall into a chute, and then they are automatically positioned on three rotating spindles for degreasing. The bobbins drop onto a conveyor for further processing.

Cuts and nicks are removed by removing the degreasing cloth and substituting a fine abrasive. The speed of the machine is 24 bobbins per minute.

(A-69)

Automatic Quill Polisher

A quill polisher with an automatic feed was shown by J. M. Nash Co., Milwaukee, Wis. The 10-spindle head is kept supplied by a conveyor that is constantly fed by an automatic conveyor from a hopper. The polisher was cleaning 40 bobbins per minute.

The bobbins were first cleaned with a rotating cloth band, then with steel-wool pads, a polishing pad, and finally with a buffing pad.

(A-70)

Conditioning Machine

A new H-W conditioner for preshrinking nylon was shown by Industrial Dryer Corp., Stamford, Conn. The conditioner works at high temperatures and atmospheric pressure. It was set up to automatically preheat, condition, and exhaust.

(A-71)

▶ A roller-bearing spindle that can run 3¼ years on three shifts without an oil change was shown by Gubelin International Corp., New York, N. Y. A flexible joint in the spindle allows it to find a balancing point with minimum wear.

Also shown by Gubelin were a stepless adjustable-speed V-belt drive and a 2-for-1 uptwisting spindle.

(A-72)

▶ Expendable and low-price shipping spools for monofilament yarns were shown by Hubbard Spool Co., Gavrett, Ind. Stainless-steel perforated bobbins for steaming were also shown.

(A-73)

▶ Traverse guides for Universal No. 50 winders were displayed by Heany Industrial Ceramic Corp., New Haven, Conn. The guides are designed to give longer life and easier threading.

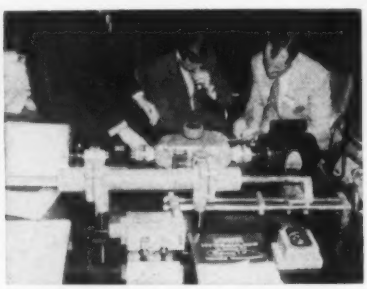
(A-74)

▶ Ball-bearing mounts for traverse card grinders were shown by B. S. Roy & Son Co., Worcester, Mass. Grinder life is up 33% at a 5% added cost.

(A-75)

▶ A long-life lag that has the natural oils returned to the wood after the dry-kiln process was shown by William Crabb & Co., Black Mountain, N. C.

(A-76)



Hydraulic Traverse

A simulated traverse motion using a hydraulic drive was demonstrated by Vickers, Inc., Detroit, Mich. A graph showing the end package condition showed an accuracy of ±.005 reversals. Speed is infinitely variable, and any kind of package can be built. A special snap-action valve was developed for the traverse motion.

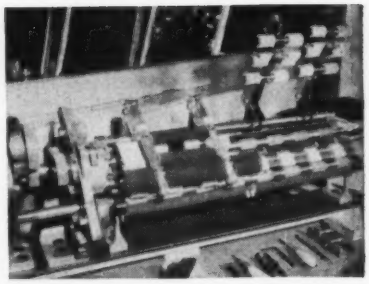
(A-77)

▶ Rings made of steel Oilite were shown by Chrysler Corp., Amplex Div., Detroit, Mich., and were running on spinning frames shown by Saco-Lowell. The rings are self-lubricating, do not drip, and accommodate higher traveler speeds.

(A-78)

▶ Card-Tho-Mat, the pneumatic suction device for woolen cards, was shown by Stellite American Corp., New York, N. Y.

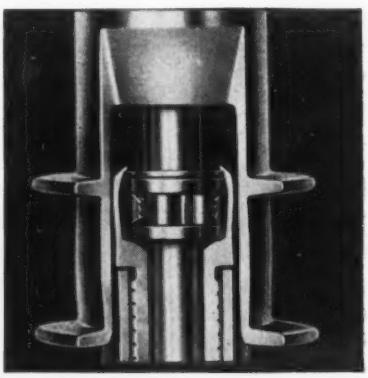
(A-79)



Double-Apron Drafting

A Spintex double-apron drafting mechanism with SKF pendulum-weighting arm and upper-apron cradle was shown by Lenkotex Co., Inc., New York, N. Y. Normal draft is 16 to 25 with cotton fibers to 1½ ins.; with a special cradle, fibers up to 2⅜ ins. can be spun; and with a special arm, drafts of 28 to 40 are possible on cotton and rayon.

(A-80)



Antifriction Spindle

An antifriction spindle adaptable to any one of several driving methods was shown by Draper Corp, Hopedale, Mass. The spindles can be furnished with a top drive, or a top-drive adapter can be applied to any mill's spindle blades. When the adapter is used, a mill's own bobbins are adapted to this change.

In addition to the top-drive spindle, other antifriction spindles are available for hand-driven spindles and large spindles with Stimson clutches.

(A-81)

▶ Bent-tooth Strip-O-Matic card clothing was announced by Benjamin Booth Co., Philadelphia, Pa. The teeth bend at the face of the foundation.

(A-82)

▶ The Spintex comb box with SKF roller bearings was shown by Lenkotex Co., New York, N. Y. One lubrication is good for up to 5,000 carding hours, and power consumption is low. The comb box attaches to either side of any make of card.

(A-83)

▶ Two new antistatic agents for synthetic-fiber processing were shown by George A. Goulston Co., Boston, Mass. Called Synthol and Dacrol, the agents can be used on Orlon, Dacron, nylon, and other synthetics. They are said to improve static control, lubrication, and dyeing.

(A-84)

▶ Stainless-steel bristle brushes for woolen and worsted half-lap cleaning were shown by Elmwood Brush Co., Easthampton, Mass. An aluminum core fits on the shaft, and the two halves are clamped together. Porcupine, nep-raising, and noiler brushes were also shown.

(A-85)

▶ Sleeves for cheeses and other products made from Duroweld were shown by Sonoco Products Co., Hartsville, S. C. The lap rolls and uptwister tubes are lightweight, tough, reusable, economical, and made to fine limits. New plastic single-head king spools in three sizes and 12 colors were also shown.

(A-86)

▶ Roving-bobbin hangers were displayed by Faultless Caster Corp., Evansville, Ind. The bearings are lintproof, and the adapter screws into wooden creels or is fixed with a nut and bolt. There are 45 different sizes of socket to fit any make of spinning frame.

(A-87)

▶ Bobbins designed for Helanca yarns were shown by Cloverleaf-Freeland Corp., Hazleton, Pa. The hollow aluminum bobbin is driven by three legs. The same bobbin is used with a take-up mandrel, and the same bobbin can be used on the uptwister spindle.

(A-88)

▶ The split-base, ball-bearing spindle shown by Hartford Machine Screw Co., Inc., Hartford, Conn., is said to require no lubrication for five years and to allow easy maintenance when necessary. The same company also showed a wool-spinning spindle for paper tubes that can be plumbed while running.

(A-89)

▶ Magnalarm, a device that signals with a bell or light when a magnetic separator is loaded enough to impair its efficiency, was presented by Eriez Mfg. Co., Erie, Pa. When the alarm has been given, the bell or light warning signal continues until the magnet has been cleaned.

(A-90)

▶ Metal-inlay spinning tubes built especially for synthetic yarns were shown by Textube Corp., Stamford, Conn. The insides of the bobbins are paper covered. Straight compressed hard-paper tubes with a cone base for Gwaltney frames were also shown.

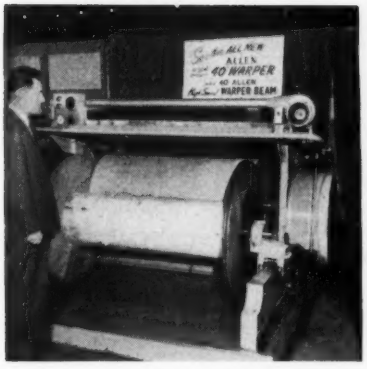
(A-91)

▶ Sykes, Inc., Newton Highlands, Mass., showed two new types of card clothing of unusual design for cotton cylinders and doffers. This fillet clothing, Types 8A and 9A, combines features of metallic and fillet wire. A new five-ply foundation uses vulcanized India rubber as a cement and for the face.

(A-92)

CONTINUED ON PAGE 238

Warp Preparation



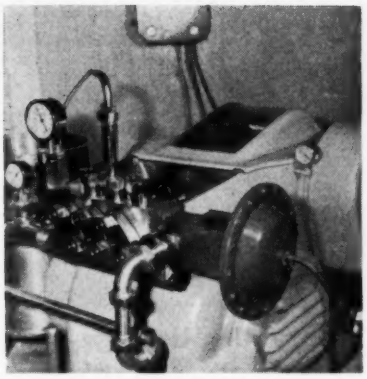
Warp at 950 Yds. per Min.

A high-speed warper with controls that make it possible to select the correct warp tension and density automatically was demonstrated by Allen Warper Co., Lowell, Mass. The warper is designed to run cotton, rayon, and other synthetic-fiber yarns.

Features of the machine are: warp density is controlled hydraulically; there is a constant yarn angle from the delivery roll to the nip of the beam; and yarn is metered onto the beam so that there is equal density and uniform tension throughout the entire beam build-up.

The warper takes a 40-in.-dia. section beam and runs at 950 yds. per min. from cakes. (This speed is not possible from cones.)

(A-93)

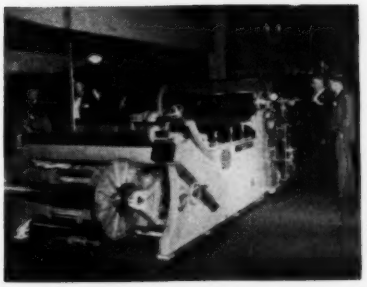


Three Homogenizer Improvements

An automatic pressure controller for homogenizers was shown by Manton-Gaulin Mfg. Co., Inc., Everett, Mass. The controller, which also records, improves size uniformity by keeping homogenizing pressure under constant control. There's also a permanent record for reference.

Also announced were a new single-stage valve and a replaceable-seat cylinder. The pilot has been eliminated from the new valve, and about 25% lower pressures can be used to get the same size viscosity. The new cylinder has a reversible seat and enables a mill to rehabilitate the block at low cost.

(A-94)



Seven-Can Slasher

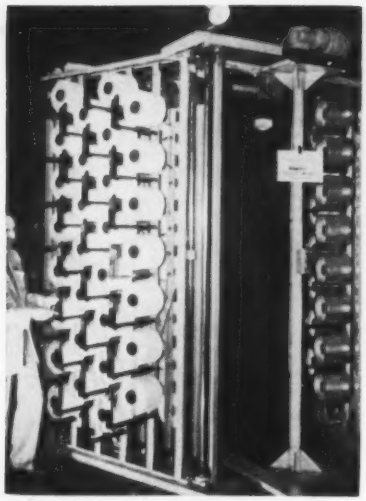
A seven-can slasher was displayed by Cocker Machine & Foundry Co., Gastonia, N. C. D. L. Friday points out the controls. The constant-slip friction insures cool running, regardless of speed or load.

(A-95)

Hot-Air Slasher

Hydraulically operated doffing and loading at the front end were the outstanding features of a new hot-air slasher shown by Bachmann Uxbridge Worsted Corp., Uxbridge, Mass. The company states that one man can doff and load the slasher in 60 secs. or less by using the hydraulic power mechanism. The unit is equipped with roller bearings throughout, and need for lubrication is practically eliminated.

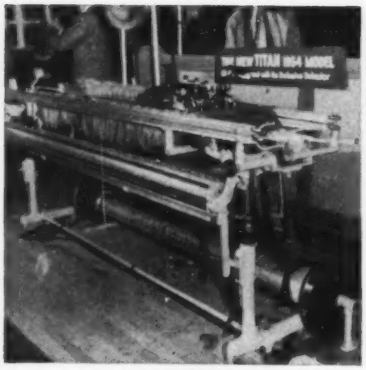
(A-96)



Creel for 5-Lb. Cheeses

A creel that holds 5-lb. cheeses was shown by Cocker Machine & Foundry Co., Gastonia, N. C. The cheeses are loaded from the inside. Each end has a self-cleaning stop-motion unit. The creel is driven by a motor on the creel head to its loading position. The creel runs on a circular track and is chain driven.

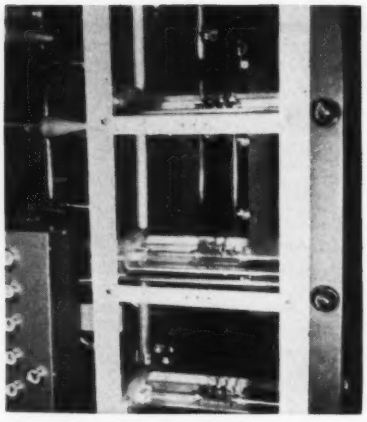
(A-97)



Warp-Tying Machines

Three new portable warp-tying machines were demonstrated by Edda International Corp., New York, N. Y. Basically the machines are similar, but each machine has its specific use in tying different types of warps. GK-6C is for tying unleased warps. The second machine (GK-6B) ties leased or unleased warps. The third machine (GK-6A) is the same as the B model but also has a detector to stop the machine when flats appear in the pattern.

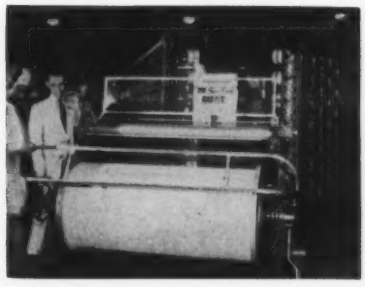
(A-100)



Creel Improvements

An improved creel was demonstrated by Edward J. McBride Co., Philadelphia, Pa. An adjustable weight on the drop wire allows the wires to be turned to the diameter of the yarn. Ten different positions of the tension post on the creel can be obtained by sliding the post in a notched slot. An annunciator on the creel front shows the bank and the creel side of a faulty end. The broken end registers even if the remaining ends fall when the warper stops.

(A-103)



High-Speed Warper

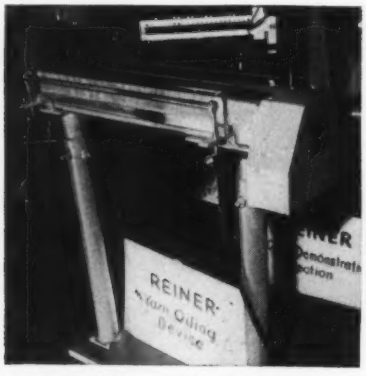
A high-speed warper that was running a 40-in.-head beam was shown by Barber-Colman Co., Rockford, Ill. The beam was running at high speed from a creel with 6-lb. cheeses.

(A-98)

Tricot Beam for Nylon

A new combination aluminum-and-steel tricot beam said to be capable of withstanding the pressure of fine-denier nylon yarns was shown by Briggs-Schaffner Co., Winston-Salem, N. C. The beam has forged-steel hub sections and alloy-steel capscrews treated to protect against rust. The method of construction permits easy replacement of head or barrel if they are accidentally damaged. The company estimates that a 21x21-in. tricot beam can be safely filled with 92,000 yds. of 588 ends of 15-den. filament nylon if the tension does not exceed 4 gms.

(A-99)



Tricot Oiling Unit

A tricot oiling unit was demonstrated by Robert Reiner, Inc., Weehawken, N. J. The unit can be fitted to warper heads to suit individual needs. A small motor drives the oiling roll at variable speeds to give different oiling conditions. The motor is connected to the warper, and the roller stops when the warper stops.

(A-101)

► A light aluminum section beam for rayon yarns is said by the manufacturer, Briggs-Schaffner Co., Winston-Salem, N. C., to have maximum strength and minimum weight for shipping purposes. Specifications of the beam are 30-in. dia., 54¾-in. length, 11⅞-in.-dia. barrel, and 1¼-in.-dia. forged-steel journals.

(A-102)

Warp Lubricator

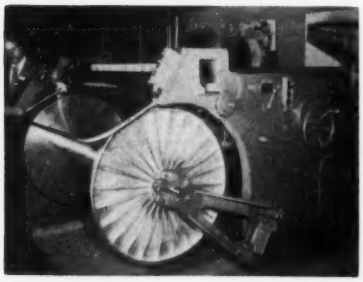
A warp lubricator for wool, rayon, and cotton slashers was shown by Seydel-Woolley & Co., Atlanta, Ga. The lubricator consists of a roll that turns in a trough heated by steam. The trough is set between the drying section and the split rods.

(A-104)

Section Beam

A section beam claimed to withstand the pressure of loads imposed by nylon and other synthetic-fiber yarns was exhibited by Briggs-Schaffner Co., Winston-Salem, N. C. Tests were said to have been conducted where a 30-in.-dia. beam did not break after a 300,000-lb. load was placed on it. The beam is to be used with both Cocker and Reiner warpers and is available in 28-, 30-, and 32-in.-dia. heads. Fabricated parts make it easy to repair or replace the parts.

(A-105)



Hydraulic Warper Doffer

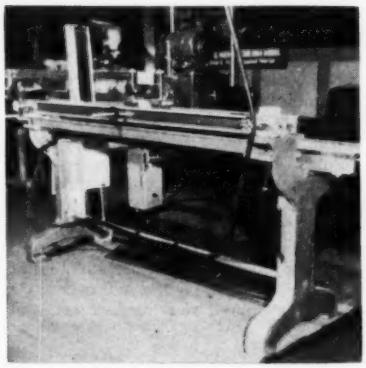
A direct warper was shown by Sipp-Eastwood Corp., Bloomfield, N. J. Features of the warper are the simplicity of the drive, a cold-bar static eliminator, a hydraulic beam-doffing device, and an increasing braking action as the beam gets larger. The machine can't be run when the roller is back. Hydraulic pressure moves the beam to the side and lowers it to the floor. Three driving pins lock the beam in place when a new beam is put in position.

(A-106)

Air Slasher-Dryer

Proctor & Schwartz, Inc., Philadelphia, Pa., showed a model air slasher-dryer. The machine is said to produce 900 to 1,500 lbs. of dry warp per hour. Hot air is carried to and away from the warp through parallel ducts, and warp tangling or rolling is virtually eliminated. Over 22 linear yards of warp make five passes through the slasher, and each pass is directly subjected to controlled air from an individual duct. The warp is split at the entering end to reduce sticking and shedding.

(A-107)



Portable Warp Tyer

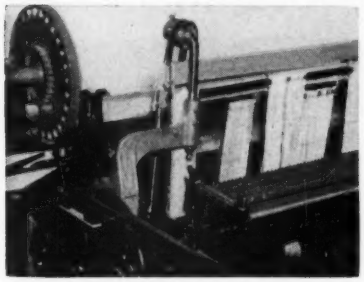
A new portable warp-tying machine was demonstrated by Barber-Colman Co., Rockford, Ill. This new model will tie warps up to 66 ins. wide in a single hand. It is available in widths of 46, 56, and 66 ins., or longer if desired. The machine is also available in three models: the MC for tying from flat sheets only, the MS for tying from 1x1 leases only, and the ML, which will tie from either flat sheets or 1x1 leases.

(A-108)

Weaving

Draper Shows Seven Looms With Major Changes

Seven looms with major changes were shown by Draper Corp., Hopedale Mass.

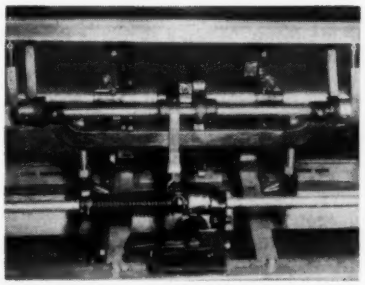


The first loom is a 46-in. E-model archless loom weaving 64x56 cotton print cloth at 178 ppm. Since the battery is the highest part of this loom, weave-room visibility from loom to loom is greater.

The loom has a ¾-hp. Draper-Diehl power transmitter for positive brake and clutch action. The regular side shipper motion is used with the drive.

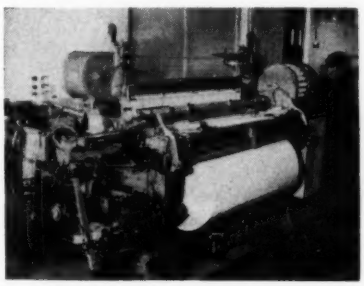
Other features are spring-type crank arms, a new protector-motion frog construction that uses spring-packed "live" frogs, a metallized take-up roll, picking shafts with finished journals, and 8-in. bobbins.

Loom 1 (A-109)



The second loom is a 90-in. XL loom weaving 64x64 sheeting at 120 ppm.

The loom has two roll-and-shaft harness motions and two sets of underneath parts. Bobbins 8¾ ins. long are run. Draper Drive No. 6 is used.



The two most important features of this loom are the No. 1 automatic compound let-off and a new adjustable drag-roll bracket assembly, both applied to reduce beat-back on heavy weaves.

Loom 2 (A-110)

Loom No. 3 in the group is a 72-in. XP loom weaving mattress ticking at 152 ppm.

The loom is equipped with a Draper-Diehl power transmitter, new-type picking-shaft construction with floating thrust washers, and a one-shot lubrication system.

The feature of this loom is that it can be adjusted to a wide range of picks per inch. A compound-driven No. 4 Bartlett automatic let-off and a compound-driven nutting high-roll ratchet take-up make the wide range of picks possible.

Loom 3 (A-111)

The fourth loom is another loom without arches. It's a 46-in. X-2 loom that was weaving a 75x44 sports-denim fabric at 192 ppm.

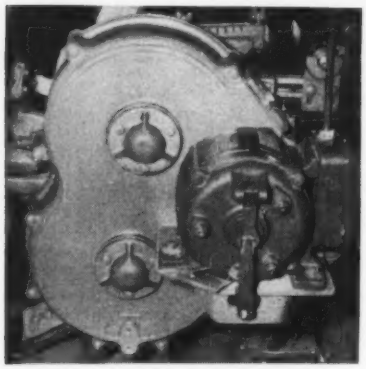
New-type harness frames for archless-loom construction are included in the harness motion. The harnesses are lifted by their end braces rather than by the wooden frames.

A new-type single V-belt drive is used on the loom. A two-piece camshaft drive gear is placed on the loom so that the V-belt can be changed for speed changes.

A new-type pick cam and toe are on the loom. Instead of the cam and toe being separate, as in the past, the cam and toe are one piece; and all contact surfaces are

contour milled. A removable yoke is included in the cam opposite the toe position to place the combination part on the camshaft. This feature saves loom-fixer time in adjustable power settings and toe application.

Loom 4 (A-112)



Another new 40-in. X-2 loom ran 48x48 sheeting at 220 ppm.

The loom features an enclosed oil bath for the gears of the 1-hp. Draper-Diehl transmitter and for the motor pinion, crankshaft drive gear, and camshaft drive gear.

Loom 5 (A-113)

The sixth loom is a third X-2 loom, featuring antifriction bearings. The loom had no warp and was operated slowly (40 ppm.) so that special features could be inspected closely.

The loom has 83 antifriction bearings. Antifriction bearings are furnished on the crankshaft, front crank arms, camshaft, rocker shaft, loom beams, throughout the whiproll parts, auxiliary-shaft bearings, idle gears, take-up-roll bearings, protector rod, picking balls, let-off, take-up, harness sheaves, and harness-roll studs.

Loom 6 (A-114)

Loom No. 7, a 50-in. XD-model filling-mixing loom, was weaving a fabric from dope-dyed acetate yarn at 162 ppm.

The loom has a cam-driven box motion for 2x1 shuttle-box weaving. It is provided with a center-fork stop motion, 1-hp. Draper-Diehl power transmitter, and a 20-harness dobby.

The same type of one-piece pick cam and toe used on the 46-in. X-2 loom weaving sports denim is used on this XD loom.

The outstanding feature of this loom is the new pivoting-binder construction. Eccentric bushings similar to those used in the binder of the battery end of regular XD looms are used in the binders on the drop-box end of the loom. Results are easy and quick adjustments by the loom-fixer. Binder-spring tension is fixed, and all adjustments are made by turning the eccentric bushings.

Loom 7 (A-115)

▶ Preformed spindle bumper straps were exhibited by Graton & Knight Co., Worcester, Mass. The straps are mounted on hardwood dowels at the Graton & Knight plant.

(A-350)

Five C&K Multipurpose Looms

Five new multipurpose looms, all having similar basic features, were shown by Crompton & Knowles Loom Works, Worcester, Mass.

The similar features begin with heavier and more rigidly constructed loomsides. The same A-girders are used in all looms. Wider looms have more A-girders than narrow ones.

Crankshafts and camshafts (bottom shafts) are the same diameter on all looms. Single-piece camshafts are used on narrow looms with single driving gears. Two-piece camshafts are used on wide looms that have drive gears on both ends of the loom.

All five looms are equipped with a new composite-type, loom-driven let-off. A large worm gear housed in a fixed position is driven by other gears that, in turn, receive their movement from the lay.

A back-roll arrangement accurately measures the warp tension and indicates to the let-off the amount of movement necessary to keep the warp tension constant.

Beam-head diameters are up to 28 ins., and beam-gudgeon diameters are all 1¼ ins.

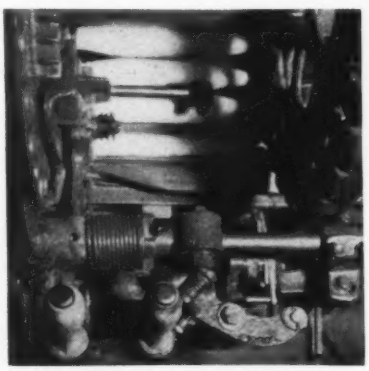
The double-plate faced clutch (same type as that used on S-6 looms) is used on all multipurpose looms.

All five looms have rotary-type magazines even though they are running from one to four colors of filling. The rotary magazines equipped for more than one color of filling all have vacuum filling-end removal.

The new link-type binder is used on all five looms. When a shuttle is received in a shuttle box, the binder link causes the binder to gradually close in on the shuttle and help check it. But when the shuttle is picked out of the shuttle box, the link releases the pressure on the shuttle to let it be picked out of the shuttle box easily.

The cone-type picking motion is used on both ends of all five looms.

Any of the five looms can be equipped at Crompton & Knowles with any conventional take-up motion for weaving fabrics. Any conventional harness or head motion can also be used.



The first loom in the multipurpose group is an 82-in. filling-mixing loom with a positive-geared 2x1 box motion that was weaving a staple-rayon and acetate blended fabric.

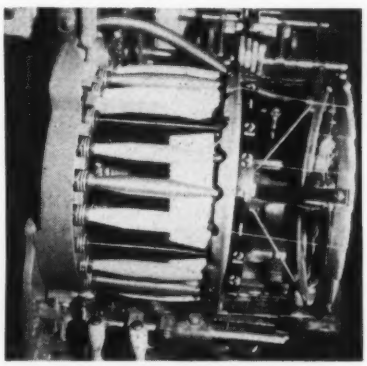
One outstanding feature of this loom is that it is designed so that it can be converted from a 2x1 loom to a single-shuttle loom. When this change is made, a loop picker and parallel shoe are used to replace the drop-box picker and rocker iron.

Loom 1 (A-116)

The second multipurpose loom is a 48-in. geared 2x1 box-motion loom that was running a two-color cotton sports-denim fabric.

A 17⅞-in. shuttle is used for 8¾-in. metal-ferrule bobbins. The harness motion is the undercam type with space for four harnesses. This loom can also be changed to a single-shuttle loom.

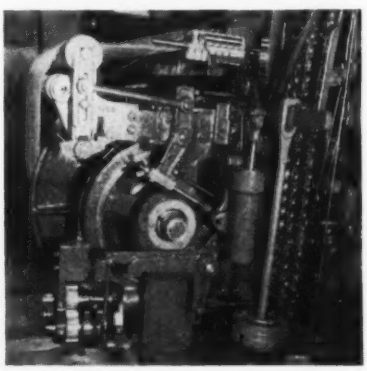
Loom 2 (A-117)



Multipurpose Loom No. 3, a 60-in. geared 4x1 box-motion loom was running a four-color filament-acetate plaid.

A four-color rotary magazine having the numbers one through four stenciled on the bobbin disk is used to transfer all filling automatically. A two-prong electric feeler is used.

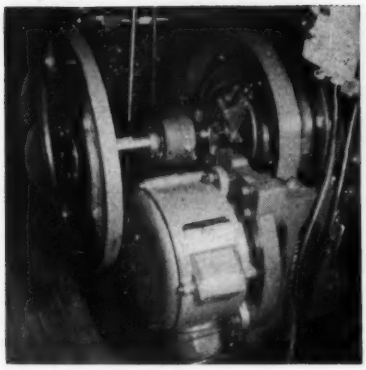
Loom 3 (A-118)



Loom No. 4, also a multipurpose 4x1 loom, was running a staple-acetate plaid flannel. The 78-in. loom has the same type four-color rotary magazine used on the loom running filament-acetate cloth. This loom has a box-motion to indicate box-motion changes and color-motion changes for the magazine.

Loom 4 (A-119)

The fifth loom in the series, a 72-in. loom with a two-color rotary magazine



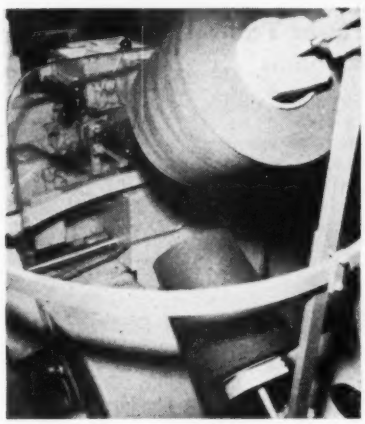
was weaving a blended warp of cotton and staple rayon with rayon novelty filling. The cloth was an upholstery fabric.

A 20-harness 15/32-in.-gauge dobby is used.

A 17½-in. shuttle runs a 8¾-in. bobbin.

This loom is also convertible to a single shuttle loom.

Loom 5 (A-120)



Filling Yarn Lasts 6 Hrs.

Two jumbo-type filling packages, weighing 15 lbs. each, were the feature of an 80-in. weaving machine shown by Warner & Swasey Co., Cleveland, Ohio. The filling was standard single-ply yarn weaving a women's-wear woolen fabric. End-to-end creeling of the two filling packages gives 6 hrs. of continuous weaving operation without replenishing the filling.

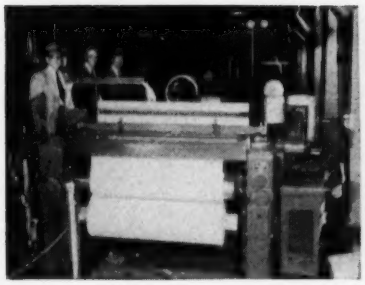
(A-121)

Friction-Type Feeler

A friction-type feeler was demonstrated by Bullard Clark Co., Danielson, Conn. The feeler has a transparent-plastic cover so that the internal parts can be watched for mechanical position.

The feature of the feeler is that a full bobbin of filling, when transferred by the battery, trips the feeler blade to a second-stop position and reduces the tension of the feeler tip on the filling yarn.

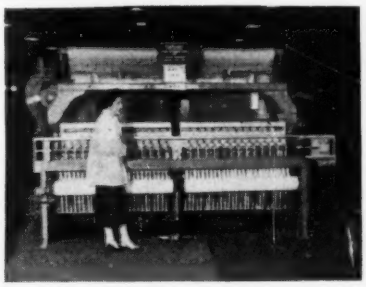
(A-122)



Loom Runs at 250 Ppm.

A single-shuttle bobbin-changing loom with a dial showing a loom speed of approximately 250 ppm. was being run by Societe Anonyme Adolphe Saurer, Arbon, Switzerland. The 43¾-in.-reed-space loom was weaving a four-harness cotton fabric. The loom has no arch.

(A-123)



Narrow-Fabric Loom

A high-speed semiautomatic narrow-fabric loom running at 265 ppm. was shown by Fletcher Works, Inc., Philadelphia, Pa. The loom is 9 ft. between end frames and has double-deck circular battens containing 52 spaces. The reed space in battens is 1 in.

Heavier construction is featured in the loom ends. Other features are a new continuous-type take-up arranged so that the desired number of picks per inch can be obtained without changing the change wheel.

(A-124)

Automatic Pick-and-Pick Loom

A multishuttle loom, the W-3A Select-A-Pic, was shown automatically weaving a pick-and-pick glen-plaid worsted-Dacron-nylon-blend suiting. Formerly, the filling would have been hand changed. The loom was shown by Crompton & Knowles Loom Works, Worcester, Mass.

A special shuttle-picking arrangement results in a slight loss in production to position properly for bobbin transfers. The loom is equipped with a 25-harness, 4/10-in.-space Knowles head motion. The loom drive is the standard W-3 drive. The let-off is the fully automatic let-off in the high position and takes a 30-in.-dia. beam head.

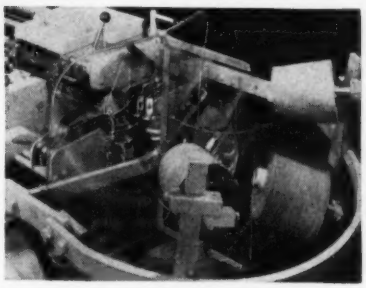
(A-125)

Fluid Loom Let-off

A loom let-off was displayed by Twin Disc Clutch Co., Racine, Wis. The let-off, known as Hydro-Tensor, is claimed to automatically provide ideal tension control for weaving operations. The let-off motion can be applied to existing looms or to new looms. By incorporating fluid-coupling operation, the let-off is said to maintain uniform warp tension from full to empty beam.

Of particular importance to synthetic-fiber weavers, the let-off also dampens the inertia effect of the warp beam. The result is fewer set marks in the woven cloth.

(A-126)



Filling-Mixing Attachment For Weaving Machine

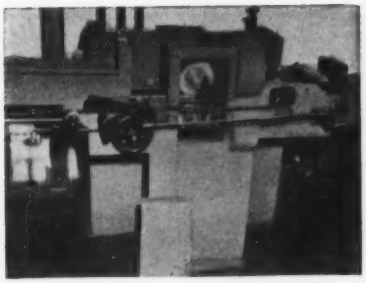
One of the two 80-in. weaving machines shown by Warner & Swasey Co., Cleveland, Ohio, was equipped with a filling-mixing attachment for pick-and-pick weaving. The machine was weaving a two-color sharkskin at 240 ppm. An extra filling detector is mounted on the receiving side of the machine to improve the quality of the cloth.

(A-127)

Parallel Motion

A parallel motion made of hardened malleable iron and said to overcome breakage and wear was shown by H. F. Livermore Corp., Boston, Mass. The parallel is machined to a flat milled surface for correct travel of the parallel shoe. As a result, the shuttle is thrown truly. A locking stud replaces conventional setscrews to hold the parallel motion to the rocker shaft of the loom.

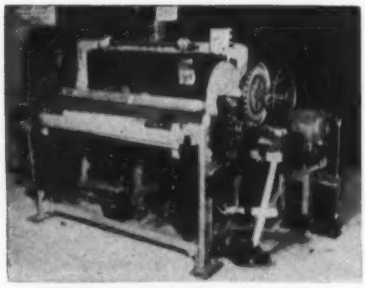
(A-128)



Reed Cleaner and Polisher

A rotary automatic reed-cleaning and polishing machine was demonstrated by Schmidt Mfg. Co., New Bedford, Mass. The machine is fully automatic in that up to 20 reeds of any length can be placed in the magazine and the start switch pushed. When the last reed is cleaned, the machine stops automatically. Both tops and bottoms of reeds are cleaned at one time. The machine sells for $1,975.

(A-129)



HL-16 Loom

An electric drive and brake were the feature of a cotton-type loom being run by Hunt Loom & Machine Works, Inc., Greenville, S. C.

The loom, the HL-16, is described by the manufacturer as being an all-purpose loom built primarily for weaving cotton cloths. The drive is equipped with push-button control and is said to stop near any desired lay position. The harness motion is the undercam type and will accommodate up to 12 harnesses. The loom is made up to 60 in. wide.

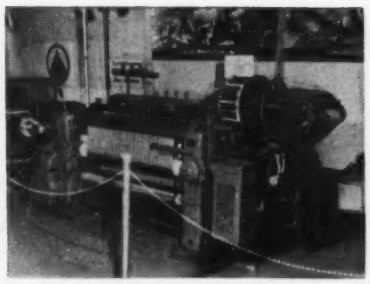
(A-130)

Multishuttle Narrow-Fabric Loom

A multishuttle narrow-fabric loom, running at 306 ppm., was exhibited by Crompton & Knowles Loom Works, Worcester, Mass.

The loom has double-deck battens, is 44 space, and is 14 ft., 5½ ins. long. The fabric woven was ⅞-in. zipper tape of all cotton. Hourly production at 90% efficiency is said to be 420 yds. The loom is equipped with the silent-type drive with a single belt. A push-button jig-start-stop control is located at the front of the loom for ease of operation by the weaver.

(A-131)



Archless Multishuttle Loom

A four-shuttle bobbin-changing loom, with 51-in. reed space, running a four-color rayon plaid was shown by Societe Anonyme Adolphe Saurer, Arbon, Switzerland. The loom was weaving a four-harness fabric with the complete harness motion underneath the loom. The loom has no arch.

(A-132)

Filling Thread Cutter

A lightweight thread cutter for transferred filling ends to be used on several types of looms was demonstrated by Bullard Clark Co., Danielson, Conn. Features of the thread cutter, according to the manufacturer, are: it cuts and holds all types of yarn from the finest to the heaviest without adjustments; it is lightweight and, as a result, revokes less; fewer adjustments are needed because the cutter has few parts; less loom downtime results because the cutter can be replaced quickly when replacement is necessary.

(A-133)

►A swivel-type improved binder stop for drop-box looms with floating binders was exhibited by H. F. Livermore Corp., Boston, Mass. The binder stop permits both pivoting and lateral binder action and prevents tipping of the binder. The result is that the binder is held in contact with the face of the shuttle for the full length of the binder working surface.

(A-134)

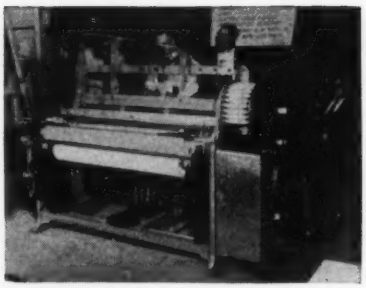
Loom Cleaner Travels Overhead

A traveling overhead loom cleaner with oscillating housings was shown by American Monorail Co., Cleveland, Ohio. Two sweeping air streams travel across each loom and keep all lint blown from the loom and warp. The speed, direction, and velocity are easily controlled. A separate fan is available for cleaning the ceiling.

(A-135)

►A new-type lock nut and lock rods were shown on Drawtex harnesses by Steel Heddle Mfg. Co., Philadelphia, Pa. The lock nut holds the heddles in the correct position but keeps both the lock nuts and rods from wearing.

(A-136)



HB-3 Loom

The HB-3, with antifriction bearings throughout the main shafting, was shown by Hunt Loom & Machine Works, Inc., Greenville, S. C. Oil-impregnated bushings and nylon gears against metal gears are said to eliminate oiling any part of the loom. The loom is equipped with an electric drive and brake and is said to stop or start easily. The Borden Humidity-Irregularity Minimizer was also shown on the loom. Its purpose is to draw humidity through the warp.

(A-137)

Power Transmitter for E Looms

A new Diehl power transmitter designed especially to convert Draper E-model looms to individual drives was exhibited by Diehl Mfg. Co., Somerville, N. J. The drive is similar to the regular Diehl power transmitters used on X-2 and X-D looms and has a ¾-hp. motor.

(A-138)

Binder-Covering Material

A loom-binder covering material was displayed by The Felters Co., Boston, Mass. The material comes in sheets ⅜ in. thick and 60 ins. wide.

The manufacturer claims that the material, if properly applied to loom binders, will eliminate shuttle bounce and increase the life of checkstraps. Because tension can be taken off heel springs, heelspring life is also increased. Humidity does not affect the covering or the boxing of the shuttle.

(A-139)

►A laminated hickory picker stick for both Crompton & Knowles and Draper looms was shown by Schmidt Mfg. Co., New Bedford, Mass. The stick is said to last for a long time and still give all the whip necessary to protect loom parts when drop-box shuttle boxes hang.

(A-140)

►Two new loom bearings were shown by New Departure, Bristol, Conn. The sheave bearing has a nesting feature, and the pick-ball cam roller has two rows of balls.

(A-141)

Machine Regrinds Worn Reeds

A reed-grinding and -brushing machine was shown by Edda International Corp., New York, N. Y. Without any attention from an operator, the machine will grind worn reeds to good condition. Then the brushing device removes dust and grit from the reed. The stones of the machine are made so that the reed wires are given their original shape.

(A-142)

▶A steel shuttle tip that is said to be practically indestructible was shown by Standard Pressed Steel Co., Jenkintown, Pa. The shuttle tips are made with greater strength in the critical shank area.

(A-143)

▶A new type of harness, the Glidetex, was shown by Steel Heddle Mfg. Co., Philadelphia, Pa. The harness is similar in appearance to Drawtex harnesses and is slightly cheaper in price. However, it cannot be used with Barber-Colman drawing-in machines.

(A-144)

▶A pin take-up roll and pin-type temples for plush looms were shown by R. H. Hood Co., Philadelphia, Pa.

(A-145)

▶An improved weaver's knotter was shown by A. B. Carter Inc., Gastonia, N. C. The scissor blade and base has been changed to improve maintenance, parts not made in stainless steel have been rust-resist treated, and the cutting blade has been redesigned to allow tighter knots to be made.

(A-146)

▶A lint-free paint was shown on both wooden and steel harnesses by Steel Heddle Mfg. Co., Philadelphia, Pa. The company claims that lint will not adhere to the harnesses. The paint also resists any commercial cleaner used on harness frames or heddles. Aluminum harness frames coated with the paint will not oxidize.

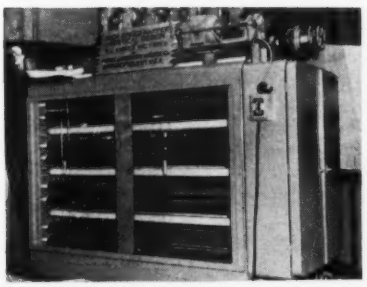
(A-147)

▶An improved shuttle-eye thread cutter to be used on several types of conventional looms was shown by H. F. Livermore Corp., Boston, Mass. The thread cutter is said to be easily and quickly applied to the transfer end of the looms. Positive cutting and the elimination of jerk-backs in the cloth are the results.

(A-148)

CONTINUED ON PAGE 234

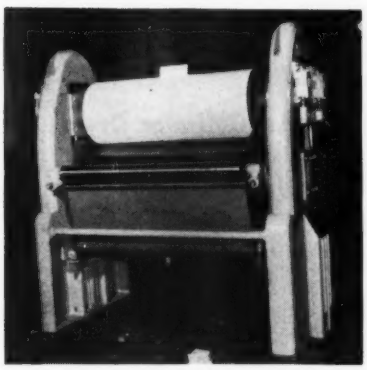
☆ Bleaching, Dyeing, and Finishing ☆



Vertical High-Speed Napper

Parks & Woolson Machine Co., Springfield, Vt., showed a new vertical napper capable of napping in one run, up to 100 yds. per min., both face and back of fabrics. The napper workers are not driven as usual but are turned by the passage of cloth. This machine, it is said, can be used to nap all types of fabrics.

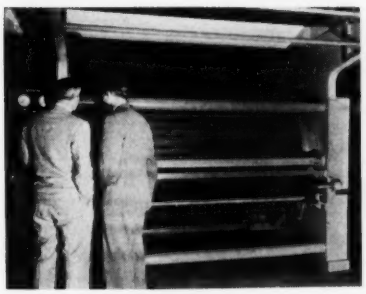
(A-149)



Two-Roll Rocket Padder

Shown by H. W. Butterworth & Sons Co., Bethayres, Pa., was a new two-roll Rocket padder, an open-width dyeing machine with pressures up to 15 tons applied hydraulically. The driven bottom roll is made of stainless steel, and the top roll is made of rubber. The dye box features a foam trough to reduce foaming in the dyebath.

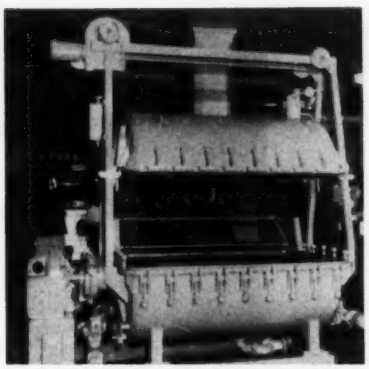
(A-151)



Variable-Torque-Drive Napper

A new Hi-Torc napper was shown by David Gessner Co., Worcester, Mass. The machine employs a variable-torque drive, and both the speed and the torque of the rolls are independently varied and recorded. Because of this type of torque drive, the machine is said to have increased production over a belt or gear-driven machine. The machine naps at a high cloth speed, and settings are easily established.

(A-150)



Benninger Pressurized Dye Jig

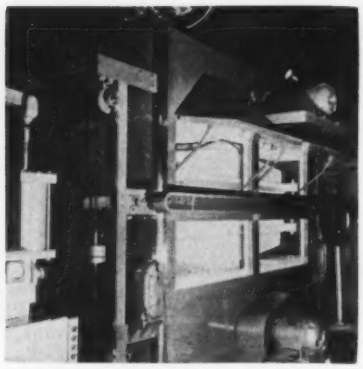
H. W. Butterworth & Sons Co., Bethayres, Pa., showed a Benninger pressurized dye jig used primarily for dyeing cloth woven from synthetic yarn. The new machine is equipped with the same driving mechanism as the standard Benninger jig. The enclosure is stainless steel with a heavy stainless-steel lining designed to withstand a maximum pressure of 28 psi. The jig can be used for dyeing batches up to about 27 ins. in diameter, 63 ins. wide.

(A-152)

Two-Roll Padder

A 15-ton, two-roll padder was shown by Van Vlaanderen Machine Co., Paterson, N. J. The padder is pressured by Microset spring tension that is loaded through the action of an air cylinder. The desired pressure is set by a gauge that works in conjunction with the pneumatic loading device.

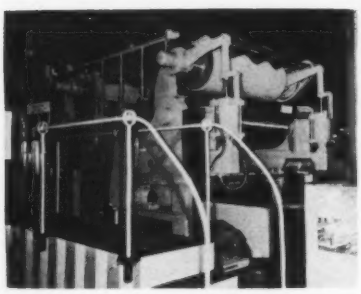
(A-153)



Vapojet Dryer

A Vapojet dryer, a machine using superheated steam to dry fabrics, was shown by James Hunter Machine Co., North Adams, Mass. Air in the drying chamber is evacuated with steam superheated by coils or gas heaters. The steam, constantly recirculated, is driven at a velocity of 6,000 ft. per min. through jets set very close to the fabric. Moisture is said to be boiled out instantaneously, leaving no surface deposits of resin to impart a harsh cloth handle.

(A-154)



Continuous Fiber Processor

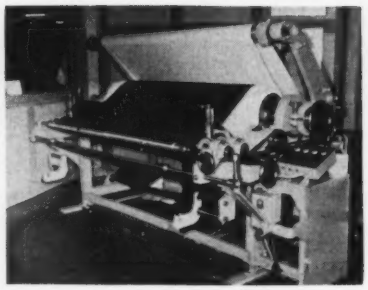
Morrison Machine Co., Paterson, N. J., showed a Williams continuous fiber-processing machine, a unit that can be used for a number of dyeing and chemical operations on fibers. Fibers processed by this unit require no additional treatment before drying, it is said. The machine, including the mesh-type conveyor belts, is constructed of stainless steel. It is said that certain stocks can be processed with direct colors through the machine.

(A-155)

Con-O-Roll Washer

A miniature model of the Con-O-Roll washer, designed for processing woven goods in rope form, was shown by Proctor & Schwartz, Inc., Philadelphia, Pa. The double top rolls, which exert a squeezing action, are tapered; and the bottom rolls are set at adjustable angles. This arrangement makes the unit self-compensating for shrinkage or stretch, and the amount of tension is easily controllable. The machine is designed for high-speed processing requiring a minimum of attention.

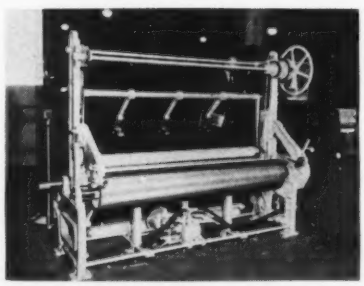
(A-156)



Semidecating Machine

A small, compact semidecating machine was shown by Mawaco Machine Co., Inc., Brooklyn, N. Y. Designed especially for use in sponging houses with small floor space, this machine requires an area of only 5x9 ft. Central control of all operational cycles makes possible a one-man operation and good work quality, it is said.

(A-157)



Rotary Cutter Winder

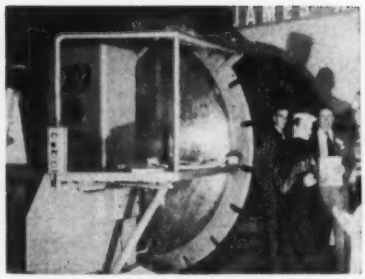
A new Emco rotary cutter winder was shown by H. W. Butterworth & Sons Co., Bethayres, Pa. The cutting device is made of numerous discs 3 ins. in diameter with 24 teeth per disc. The cutters are driven by an electric motor and can cut materials at high or low speeds or even when the material is stationary.

(A-158)

Experimental Oscillator

An experimental Adams oscillator was demonstrated by Proctor & Schwartz, Inc., Philadelphia, Pa. Featuring a 6-in. roll oscillating at 7,200 cycles per minute, the machine is being tested for use in continuous open-width fulling, washing, and dyeing operations, as well as dry finishing.

(A-159)



Barotor

James Hunter Machine Co., North Adams, Mass., showed a Barotor for piece dyeing synthetic fabrics. The machine can be used for dyeing flat-woven fabrics at temperatures greater than 212° F. In the Barotor the fabric is looped full width in multiple layers over bars on an inner and outer circumference of a six-foot rotor. The fabric is relaxed warpwise by slack feed into each loop; tension exerted by a pool of liquid scooped out as the fabric leaves the dyebath causes the fabric to shift downward. The rotor turns in an autoclave approximately one-third full of dye liquor. Since the fabric is at full width during dyeing, rope and crack marks are eliminated and minimum tensions in the warp direction reduce stretching of the fabric, it is said.

(A-160)

Curing Unit

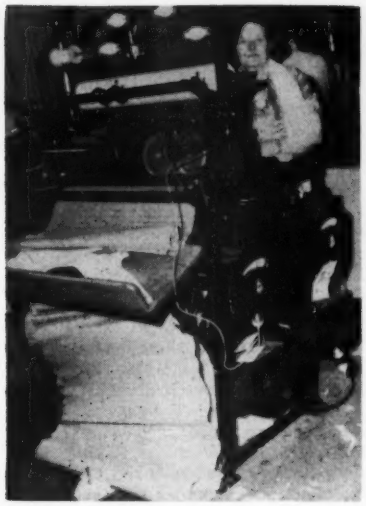
An improved gas-heated curing unit said to heat the fabric with superheated vapor was shown by Andrews & Goodrich, Inc., Boston, Mass. In conjunction with the curer was shown a hand-operated instrument panel that step by step prepares the unit for safe and effective operation. Positive tension control from beginning to end is also incorporated in the curer.

(A-161)

Vertical Cylinder Dryer

H. W. Butterworth & Sons Co., Bethayres, Pa., showed a vertical eight-cylinder dryer with a Teflon-coated cylinder at the entering end. Seams on the cylinders are welded by a continuous welding machine; and after cylinders have received the final finish, it is said to be impossible to detect where the sheets were welded together.

(A-162)



Pleating Machine

Chandler Machine Co., Ayer, Mass., showed a new pleating machine capable of producing 2,000 different pleated designs. Heating equipment producing high temperatures gives a permanent set to thermoplastic fabrics. All types of fabrics can be processed on the pleating machine.

(A-163)

Tubular-Fabric Bleaching Range

A model of a new tubular-knit-fabric continuous bleaching range consisting of a Con-O-Matic prewasher, a steaming unit, and a Con-o-Matic final washer was shown by Proctor & Schwartz, Inc.., Philadelphia, Pa. Material is fed into a steam-tight, insulated stainless-steel chamber where it passes through a preheating spray and is plaited on a conveyor. The conveyor carries the material through the steaming cycle, after which the fabric enters the Con-o-Matic final washer. Production of 1,500 lbs. per hr. is possible, it is said. Advantages are no rubbing or scuffing of the material, arrangement of the unit to suit available floor space, and the fact that only two men are required to operate the whole range.

(A-164)

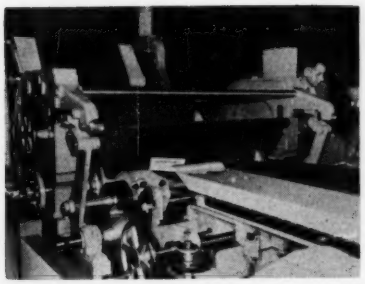
Autoprint Machine

H. W. Butterworth & Sons Co., Bethayres, Pa., showed a miniature model of a new Autoprint machine that can be taken out of register while running and put back again. Pressure is applied to the print rolls by air cylinders. The unit is electrically controlled and contains all roller bearings, and the machine can print as rapidly as 200 yds. per min. in six colors, it is said.

(A-165)

▶ Werner Machine Co., Inc., Passaic, N. J., showed a 120-in. dye pad for nylon tricot. Pneumatic pressure up to 12 tons can be produced between the rolls.

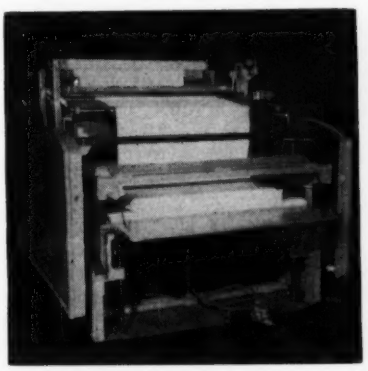
(A-166)



Rubber-Belt Shrinker

A rubber-belt-type compressive-shrinking machine was shown by Morrison Machine Co., Paterson, N. J. Fabrics processed on this machine are said to meet shrinkage tolerances specified by Cluett-Peabody for Sanforized cloth. The machine, it is said, produces an improved finish, completely eliminates heated shoes, and processes all fabrics with the same rubber blanket. It is said that speeds up to 100 yds. per min. have been obtained on lighter-weight, low-shrinkage fabrics. Rubber blankets that have processed up to 12,000,000 yds. are still in use.

(A-167)



Cloth-Folding Machine

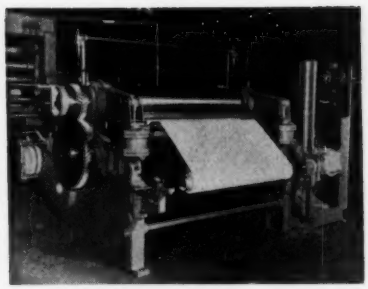
An air-operated cloth-folding machine was shown by Curtis & Marble Machine Co., Worcester, Mass. The machine has the capacity for an 11-in. pile of goods. A driven unrolling attachment with synchronized drive for feed rolls allows the use of a small scray. There is a hinged table in front of the machine to facilitate removal of folded goods.

(A-168)

Three-Roll Pad

A three-roll pad was shown by James Hunter Machine Co., North Adams, Mass. The pad is said to be built very rugged and yet have a minimum of friction at the bearings. Roller bearings are capped on the outside for maximum cleanliness, and the machine contains a special air-operated let-off. Included on the pad was a new whirlaway ball-bearing expander that is said to exert a minimum tension on warp threads and to be free turning.

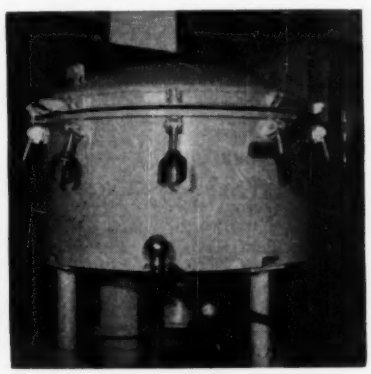
(A-169)



Two-Roll Embosser

A two-roll embosser was shown by Van Vlaanderen Machine Co., Paterson, N. Y. Loading and lifting of rolls are done through Foxboro panel controls by air pressure. The machine contains a sealed combination lubricating and cooling stream that flows from the bearings back to the reservoir. The rolls have a 2 to 1 ratio. Herringbone gears keep the timing positive, and a composition-felt drag brake on the bottom roll eliminates backlash. The embossing pattern is cut on the felt bottom roll. A friction-disc take-up is used.

(A-170)



Extractor-Dryer Combination

Smith, Drum & Co., Philadelphia, Pa., showed a new combination package extracting and drying machine. Loaded carriers direct from the dyeing machine are exposed to heated air under pressure forced through the yarn from the outside in to extract and dry the yarn to any degree.

(A-171)

Counterbalanced Tacking Head

A ball-bearing, high-speed, counterbalanced tacking head designed for high speeds was shown by Birch Brothers, Inc., Somerville, Mass. At speeds around 60 yds. per min., there is a tendency for tacking heads to wear quickly, and there is vibration. This machine has been made ball bearing throughout and has a counterbalanced needle bar.

(A-172)

Variable-Speed Tenter

A high-speed tenter frame was demonstrated by a model shown by Robert Reiner, Inc., Weehawken, N. J. The Famatex tenter has combination pins and clips that can be changed simply by moving a switch rail.

Speeds from 0 to 220 yds. per min. were demonstrated. The variable speeds are made possible by a motor-driven fluid that was actuated by a small motor. The chain rides on a plastic rail that needs no greasing. Signal lights on an indicator show when such faults as "Fabric not seized by clips on pins" occur.

(A-173)

Tensionless Open-Width Washer

H. W. Butterworth & Sons Co., Bethayres, Pa., showed movies of a new tensionless open-width washer that features a new design incorporating a patented drive. The top rolls are driven by the patented drive; so there is never any tension in the fabric, it is said. Cloth enters through two rubber-covered rolls and goes through a series of stainless-steel rolls. After passing over the last roll, goods go over an expander and are passed through two rubber-covered rolls to a winder.

(A-174)

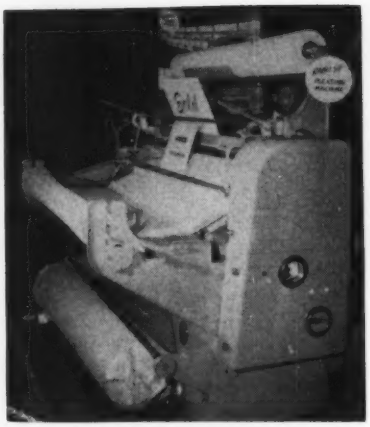
Multipurpose Calender

A new multipurpose calender was shown by McKiernan-Terry Corp., Harrison, N. J. The machine is specially designed for resin finishes and may be converted, it is said, from one finishing operation to another in a few hours by a change of gearing and rolls. Operating pressures up to 75 tons can be produced, the side pressures being adjustable by dual controls. The machine can be used for friction calendering, schreinering, and embossing.

(A-175)

▶ Chandler Machine Co., Ayer, Mass., showed a sample-cutting pinking machine that is said to be vibrationless, noiseless, and safe.

(A-176)



Permanent Pleater

A pleating machine was operating at the booth of Robert Reiner, Inc., Weehawken, N. J. Samples of nylon tricot were run and various types of pleats were demonstrated. Box pleats and many other pleats were made by adjusting a ratchet while the machine was running at 120 pleats per minute over a tissue paper. The electric heating roller is thermostatically controlled, and the heat is conducted through the fluid-filled roller to give a temperature variation between selvages of only 2° F. After passing the pleating knife, the cloth is heat set and held between a felt roller and the tissue paper. A water-cooled table then aids the heat setting by rapidly changing the temperature.

(A-177)

Tight-Strand Washer

Morrison Machine Co., Paterson, N. J., showed a stainless-steel, high-speed tight-strand washer. The machine includes a stainless-steel hood with four glass sliding doors, two on each side. A four-ton nip can be pneumatically produced, and the pit roll is 10 ins. in diameter, rubber covered, and mounted in Teflon bearings. Stainless-steel pot eyes are set in a swivel arrangement.

(A-178)

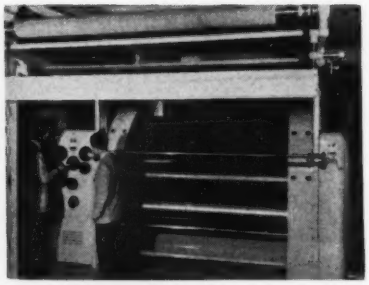
Tenter Housing

Proctor & Schwartz, Inc., Philadelphia, Pa., showed a model of a new tenter housing. Air circulation, it is said, is arranged to assure uniform distribution of air from center to side of the material throughout the entire length of the machine. Top and bottom nozzle velocities can be adjusted to suit all materials.

(A-179)

▶ Curtis & Marble Machine Co., Worcester, Mass., showed an improved rolling machine. The machine has 10-in.-dia. drums that, in conjunction with strong tubular upright guides, permit the making of a roll 48 ins. in diameter.

(A-180)



High-Speed Napper

A 36-roll napping machine operating at up to 40 yds. per min. was exhibited by Franz Muller, M. Gladbach, Germany. The machine is driven by a single 7½-hp. motor but has a wide range of speeds made possible with P.I.V. drive. Raising energy for pile and counter pile and cloth speed are regulated by stepless controls and are indicated on dials on a control panel. The new napper was displayed in a building next to the main exhibition.

(A-181)

Continuous Bleaching Range

A Rangette was shown by Rodney Hunt Machine Co., Orange, Mass. The installation is a small, complete, continuous peroxide-bleaching range suited for modest production requirements. The design of the Rangette is similar to the larger-size ranges except for lower speeds to go with smaller production requirements. The Rangette consists of a small-size Tensitrol washer, Rangette saturator, and Becco or Du Pont J-box. An entire single-stage Rangette, it is said, can be arranged on a floor space as small as 15x21 ft. According to the producer, one man should be capable of watching the flow from the gray-goods stage to the plaiting of bleached goods on a single-stage operation.

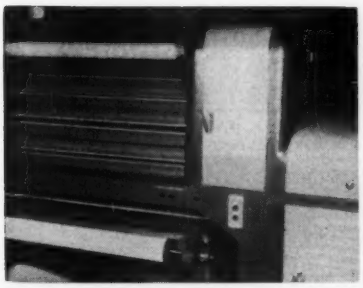
(A-182)

Package-Dyeing Machine

An improved package-dyeing machine was shown by Smith, Drum & Co., Philadelphia, Pa. The machine, it is said, is certified to operate up to 81 psi. and 325° F. The machine is equipped with heat exchangers for rapid heating and cooling. By using steam at 80 psi. and cooling water at 70° F., a dyer can raise the temperature from 100° to 250° F. in approximately 15 mins. and lower the temperature from 250° F. to 200° F. in approximately 15 mins.

A stainless-steel, high-pressure sample-package kier that under actual operating conditions shows a representative sample of the lot in the main kier can be added to the unit. A feed kier used for making additions to the bath without dropping the temperature can be supplied. With a different carrier, raw stock can be dyed in the machine.

(A-183)



Double-Acting Napper

You don't have to stop this napper to change the degree of napping energy. This model L-3, a product of Davis & Furber Machine Co., North Andover, Mass., is available in 80-, 90-, and 100-in. widths and has antifriction bearings throughout. A variable-pitch pulley controls cloth speed without change gears on the 24-roll machine.

(A-184)

Three-Roll Washer

James Hunter Machine Co., North Adams, Mass., showed a small model of a three-roll washer. The effect of two nips per bowl results in a saving of half the floor space taken by conventional single-nip, two-roll washers. The tops of the bowls are close to the floor, so that walkways can be built over the bowls. Instead of using pumps, counterflow is obtained by gravity. A long loop is used between bowls, and an automatic device controls the loop length.

(A-185)

Stainless-Steel Acid Ager

A small model of a stainless-steel acid ager designed for use with acetic, formic, or acetic-formic acids was shown by Tower Iron Works, Providence, R. I. The cloth speed is variable to more than 150 yds. per min., and a positive pulse-type acid-injection system is said to minimize acid consumption. Cloth is usually run double strand through the unit, although a triple strand can be processed. A seal on each roll is used to prevent leakage.

(A-186)

Preshrinker and Setter

A small model of a completely automatic preshrinking and setting machine for high-twist and elastic yarns was shown by Burlington Engineering Co., Graham, N. C. Called Vacuset, the unit is said to set twist in the new elastic yarns by thorough penetration of steam. A vacuum is created in the steam chamber; and when the vacuum is broken, steam rushes in and penetrates all the yarn in the machine. The operator's duties consist only of loading and unloading the machine. All intermediate operations are automatically performed.

(A-187)

Continuous Washer For Wools

Riggs & Lombard, Inc., Lowell, Mass., showed a stainless-steel continuous washer. Used for continuous washing and/or neutralizing of woolens, worsteds, or blends at variable speeds, the machine incorporates a Free-loop Electri-matic compensator that operates the d.c. drive for full control. The compensator, synchronizing the proper tubs when two loops of cloth complete a low-energy electrical circuit by coming in contact with two metal bars, helps keep the fabric tensionless between tubs.

(A-188)

Jig

The Dyemaster jig was shown by Van Vlaanderen Machine Co., Paterson, N. J. Tension on the cloth can be preset. The machine has a provision for tension-controlled power loading and unloading of the batch rolls from the center-bar mounted beams. The batching-guide brackets are provided with special chucks driven synchronously with the corresponding batch roll. The capacity of the batch rolls is 34 ins., and the jig action is automatically controlled. All parts of the jig that come into contact with cloth or dyebath are stainless steel.

(A-189)

Combination Three-Roll Calender

Van Vlaanderen Machine Co., Paterson, N. J., demonstrated a three-roll combination rolling and friction calender. Operated by hydraulic pressure, the calender can exert up to 80-tons pressure. By using a clutch and driving both rolls, the calender can be made a friction-type machine. The top and bottom rolls are composed of chilled iron, and the second roll is covered with cotton husk. Included is a constant take-up device.

(A-190)

Package-Dyeing Carrier

Smith, Drum & Co., Philadelphia, Pa., showed an improved package-dyeing carrier. Adapters have been added to accommodate 1⅜-in. tubes. One-pound packages of filament nylon of any denier can now be dyed on this carrier.

(A-191)

Tricot and Marquisette Dyeing Machine

A small-scale model of a tricot and marquisette dyeing machine was shown by Burlington Engineering Co., Graham, N. C. Engineered to boil off, bleach, and dye open-mesh goods, the machine utilizes standard package-dyeing principles but on a much larger scale. The machine is built for high-pressure dyeing, and a two-way flow is used.

(A-192)

Automatic Jig

The Mezzara Jigger, an automatic stainless-steel jig for dyeing light- and medium-weight fabrics, was shown by James Hunter Machine Co., North Adams, Mass. The machine includes automatic stopping and reversing devices and is said to maintain constant linear cloth speed. A stainless-steel-and-glass hood is said to keep temperatures uniform throughout the tank and provide savings in steam and dyestuffs.

(A-193)

Embossing Calender

A heavy-duty embosser that can be converted to a schreinering calender was shown by Werner Machine Co., Inc., Passaic, N. J. Added to the machine is a tipping and inlaying device that can be put on any embosser. The tipping part prints the raised portion of an embossed fabric while the inlaying device does valley printing.

(A-194)

Continuous Vat Dyeing

Morrison Machine Co., Paterson, N. J., showed Genray Process equipment for the continuous vat dyeing of heavy shades on rayon fabrics. The equipment, especially designed for short runs, consists of a two-roll pad coupled with one Williams unit followed by three boxes for rinsing, neutralizing, and oxidizing. It is said that processing an equivalent amount of similar cloth by the conventional pad-jig method would require a pad and six jigs. The range can be adapted to other processes.

(A-195)

Laboratory-Size Barotor

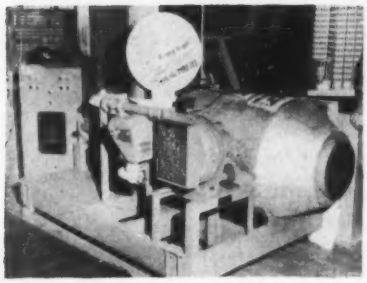
Wiesner-Rapp Co., Inc., Buffalo, N. Y., showed a laboratory-model Barotor. The unit has all the basic features of the large production model and is designed for use in test dyeing to predetermine large-scale production results and laboratory dye and process development. Eight outer bars and inner bars are used in the model. A feature of the machine is the quick-opening door that seals against a neoprene gasket recessed in the autoclave flange.

(A-196)

CONTINUED ON PAGE 246

▶Aetna Felt Co., Inc., New York, N. Y.,
▶Edward S. Beard, Spring City, Pa.,
▶Automatic Web Control Mfg. Co.,

☆ Bleaching, Dyeing, and Finishing Accessories and Supplies ☆



Gas-Fired Air Generator

The Carbomatic Pyro-Jet, a gas-fired generator for developing the high-temperature convection heat needed in dryers, ovens, and tenter housings for accelerating drying and curing operations, was shown by Sill Industries, Maplewood, N. J. Temperatures of 500° F. are easily maintained in any dryer by adding a Pyro-Jet, it is said.

(A-197)

Portable Scray

A model of a new portable scray was shown by Tower Iron Works, Providence, R. I. Designed for use in feeding cloth from a roll to a range, the scray is said to provide a continuous, uniform-tension take-off and to allow tangle-free feeding with a minimum of tension.

(A-198)

Automatic Continuous Roll Feed

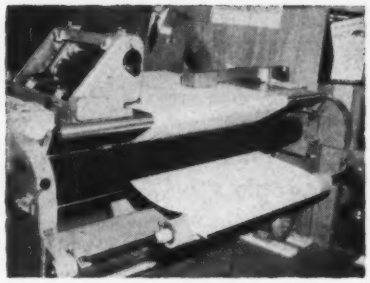
An automatic continuous roll feed designed to help maintain full-speed production with uniform tension on roll-fed machines while new rolls are being sewed on was shown by Mount Hope Machinery Co., Taunton, Mass. Nonlapping nip rolls are said to eliminate static and fraying of goods. An adjustable scray front, adjustable for width, controls storage capacity; and adjustable scray sides accommodate various widths of materials. With this unit, it is said, any machine can be run at any speed.

(A-199)

Controlled Expansion Guide

A controlled expansion guide that automatically controls both width and lateral alignment was shown by Mount Hope Machinery Co., Taunton, Mass. The unit is said to be suited for easily damaged materials and laminating jobs where misalignment or uncontrolled width causes costly trimming and waste. Selvages of material passing through the guide contact fingers to bow either or both sides of the expander simultaneously.

(A-200)



Selvage Printing

The Maag selvage printer was shown by Trumeter Co., New York, N. Y. The machine handles coarse cottons to fine silks and will print with ink or block with colored lettering by a heat process. Prints are made every 1 to 5 yds. Production is up to 65 ins. per min. with ink printing. Normal printing type is used, and the head can be removed without the use of tools.

(A-201)

Universal Tenter Chain

Marshall & Williams Corp., Providence, R. I., showed a tenter chain accommodating an overfeed and regular feed. All fabrics can be processed on the frame that holds the overfeed on new No. 20 Universal clips instead of pins. The fabric surplus is taken up in the clips by a comb plate with fitting rolls.

(A-202)

Constant-Tension Winder

A constant-tension winder was shown by Hobbs Mfg. Co., Worcester, Mass., the manufacturer of the motor and control that operate the winder. Torque increase is sensed automatically as the diameter of the winding roll builds up, and the speed of the motor is decreased in direct proportion.

(A-203)

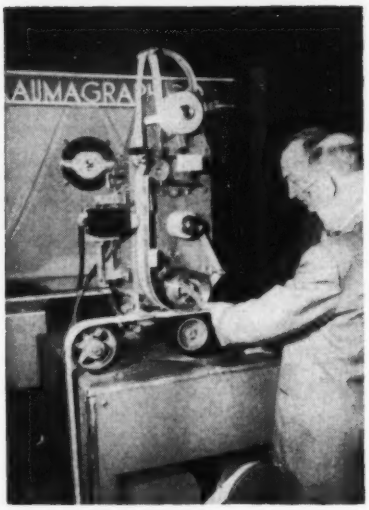
▶ Marshall & Williams Corp., Providence, R. I. showed a new constant-tension batcher driven by a rheostat-controlled motor. The batcher, it is said, is capable of producing a uniform soft or hard roll.

(A-204)

Tenter-Clip Dropper

Morrison Machine Co., Paterson, N. J. showed a clip-easing arrangement at the delivery end of a tenter frame to permit the gates of the tenter clips to drop smoothly. The arrangement is said to eliminate bouncing of gates and thereby add longer life to the clips.

(A-205)



Selvage Marker

A selvage-marking machine was exhibited by Kaumagraph Co., Wilmington, Del. The machine was marking the selvage of a cloth at 45 yds. per min. The marker head was controlled by an Askania edge control, and an electric eye registers the transfer to place it in the correct position. The marker head runs on an H-rail and positions itself to 1/16 in. Marking can be done in four different colors.

(A-206)

Automatic Cloth-Storage Scray

Cook-P & N Machine Co., Inc. Boston, Mass., showed an automatic cloth-storage scray developed to increase production of printing ranges. The horizontal design of the scray is said to increase storage time to allow piecing together of fabric ends with no slowdown of range speed.

(A-207)

Multistage Centrifugal Blower

U. S. Hoffman Machinery Corp., New York, N. Y., showed a multistage centrifugal blower for use in yarn drying. The blower, it is said, delivers air at a uniform pressure regardless of variations in volume, has no gears or similar parts to wear, and operates without mechanical noise.

(A-208)

▶ Mark-Fix, a $98 cloth-room gadget that automatically puts marking threads in selvages for defect counts, was shown by Stellite American Corp., New York, N. Y.

(A-209)

▶ Aetna Felt Co., Inc., New York, N. Y., showed a diversified line of felt cut parts for weaving, spinning, and finishing operations. A new creel washer made of simulated lamb's wool is said to be longer wearing than the natural product. Also shown was a woven pressure-roll felt of uniform thickness that won't lose its density.

(A-210)

▶ Edward S. Beard, Spring City, Pa., showed a cloth-pulling machine used for pulling tubular or piece goods, either dry or wet, from one place to another. Also shown was a spreader used for spreading tubular knitted fabrics about to enter a dryer. The spreader is a stainless-steel, collapsible, telescopic device that can be locked in widths from 6 to 48 ins.

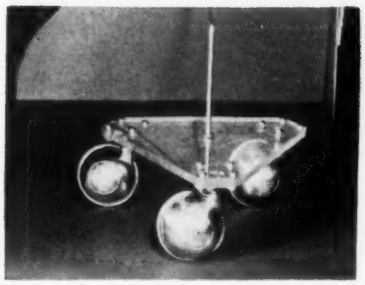
(A-211)

▶ Automatic Web Control Mfg. Co., Oklahoma City, Okla., showed automatic guiding equipment featuring a cambering-roller method of accurately positioning a moving web of any type of material. The material is cambered into position by its lateral movement, and the rollers are slightly canted at the same time to hold the material straight.

(A-212)

CONTINUED ON PAGE 240

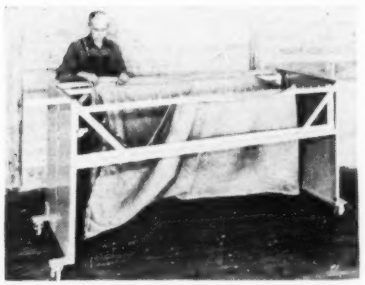
☆ Materials Handling and Packaging ☆



Unique Caster

A caster that is lintproof, free-rolling, and swiveling and does not pick up thread was shown by Wright-Batchelder Corp., Boston, Mass. The two sides of the wheel are locked by a pin. The link is an angle to retain oil and to give a larger wheel diameter with the benefit of a smaller height.

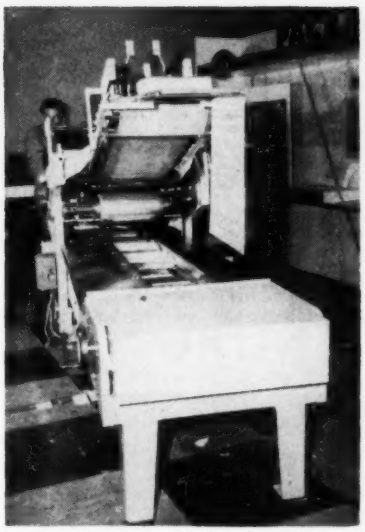
(A-213)



Bag Filling Made Easy

A waste-bagging machine was shown by W. W. Windle, Millbury, Mass. The metal frame supports two immovable bars that have pins along the top edge. A burlap bag is pressed on the pins, and the arms close as waste is put in the bag. When the bag is full, the edges of the bag are closed and ready to be sewed. Sewing is done on the frame, and two retaining pins, when removed, will drop the bag. Casters allow the bag to be transported, and a guard rail protects the operator from the pins.

(A-214)



Packaging Machine

A packaging machine for wrapping textiles in plain or printed cellophane, polyethylene, or vitafilm was shown by Package Machinery Co., Springfield, Mass. Package sizes range from 4x2x⅜ ins. to 16x9½x5¼ ins. Different height and width folded sheets were being wrapped together. The bags are heat sealed on the sides and the bottom.

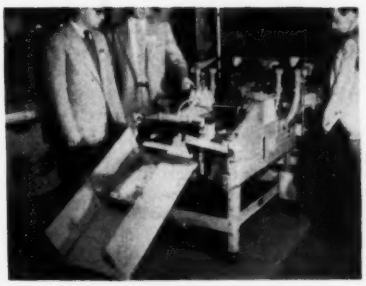
(A-215)

▶ Fiberglas bobbin-box containers for Abbott quillers, a doff box, and transportation boxes were shown by Fibremold, Inc., Medford, Mass. The containers are light, strong, sanitary, low in cost, noncorrosive, and heat resistant.

(A-216)

▶ A Fiberglas truck was shown by Beetle Boat Co., New Bedford, Mass. A 36x24x 24-in. truck was shown, but all sizes are made. The trucks are resistant to most acids and can be fitted with any type casters.

(A-217)



Bag-Making Machine

A cellophane-bag-making machine was demonstrated at the booth of Amsco Packaging Machinery, Inc., Long Island City, N. Y. Cellophane bags 17x14 ins. were being produced from a sheet at a speed of 35 bags per minute. The cellophane printed roll is fed through a brake tension mechanism so the roll won't overrun and then fed past an electric eye to register the printed material in the correct position. Two arms fold the material, and the sides and ends are heat sealed. A hole is punched in the bag to allow excess air to escape.

(A-218)

▶ Steel trucks that are shipped knocked down were shown by Kennett Equipment & Machinery Co., Kennett Square, Pa. The insides have round corners and a roll top.

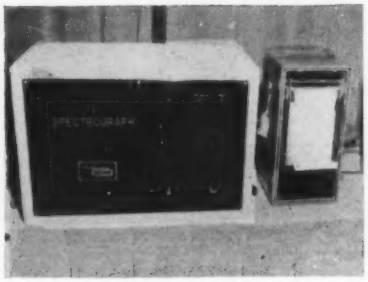
(A-219)

▶ Half-round and quarter-round waste containers made in vulcanized fibre were shown by Continental-Diamond Fibre Co., Newark, Del. The containers are designed to fit into corners to conserve space.

(A-220)

▶ A box-making machine was shown by Container Corp. of America, Philadelphia, Pa. Up to 2,000 boxes are made each day. The machine is easily adjustable from one size to another.

(A-221)



Records Unevenness Pattern

A device for interpreting yarn unevenness to indicate the manufacturing process contributing unevenness was shown by Uster Corp., Charlotte, N. C. The instrument is connected to a Uster Evenness Tester, and repeats of unevenness in the tested yarn are recorded. These repeat patterns, by the frequency of occurrence, help to spot the faulty manufacturing process.

(A-222)

Handy Counter

The Vary-Tally, made up of small reset counters, was shown by Veeder-Root, Inc., Hartford 2, Conn. Units, usually five to nine, can be set up for counting defects in fabrics; and other applications are being explored. A feature is the small cost of the units.

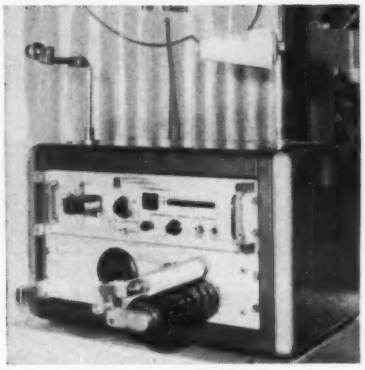
(A-223)

► Interchangeable heads for the uniformity analyzer shown by Brush Electronics Co., Cleveland, Ohio, enable tests to be made over the complete range of 200-gr. to 15-den. sliver or yarn.

(A-224)

► The squeeze-roll pressure-control unit shown by Taylor Instrument Co., Rochester, N. Y., has the element up in the coil to give a shorter motor. The working principle remains the same.

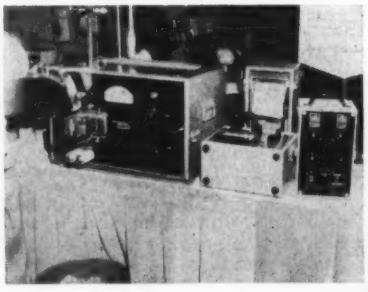
(A-225)



Imperfection Counter

The imperfection counter shown by Brush Electronics Co., Cleveland, Ohio, was developed in cooperation with the Institute of Textile Technology. The instrument counts imperfections such as neps and slubs in any size yarn from any size package. Speed is 100 yds. per min., and the counter can be set to count the same imperfections counted by eye.

(A-226)



High-Low Yarn Imperfections

An instrument for counting the number of heavy and light imperfections in yarn, roving, sliver, sliver laps, and picker laps was shown by Uster Corp., Charlotte, N. C. Called the Uster Hy-Lo Indicator, the instrument is connected to the Uster Evenness Tester.

(A-227)

Electronic Hygrometer

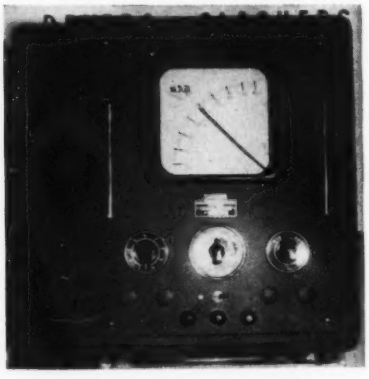
The James Hunter Machine Co., North Adams, Mass., showed an electronic hygrometer based on the Eiken System. A detector measures the relative humidity inside any machine at temperatures from –94° F. to 572° F., it is said. The device can be used to measure and control the relative humidity in dryers, ovens, and refrigeration or humidification systems.

(A-228)

Yarn Analyzer

The yarn analyzer shown by Fielden Instrument Div., Robertshaw-Fulton Controls Co., Philadelphia, Pa., is said to present immediately the information needed by spinners, weavers, or knitters to judge yarn quality. Over a definite length of yarn, the instrument gives the mean and total unevenness percentages, the total number of slubs or thick places, and a comparison with a known sample. The information is given on memory dials.

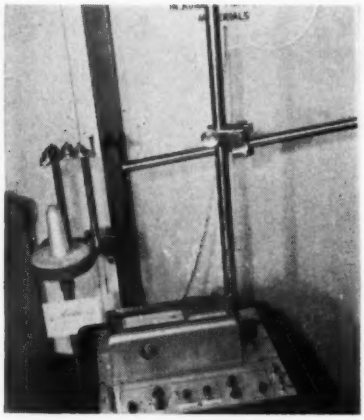
(A-229)



Electronic Psychrometer

A model of an Eicken System Electro-Psychrometer was shown by James Hunter Machine Co., North Adams, Mass. The device measures moisture in raw stock, yarns, or fabrics leaving drying, tentering, and sizing machines. Said to operate accurately at the full range of moisture content, the instrument indicates percentage of moisture, acts as a visual warning device, and automatically controls the speed of the cloth. No zeroing for different thicknesses of materials is necessary. Units that act only as recording and indicating instruments also were shown.

(A-230)



Tension Analyzer

The tension analyzer shown by Brush Electronics Co., Cleveland 14, Ohio, was developed in cooperation with the Textile Research Dept., American Viscose Corp. The instrument measures and records actual tension levels and variations in spinning, winding, warping, and other processes. Tension is read directly in grams from a chart record. Range is 4 to 400 gms.; accuracy is 0.1 gm. per millimeter. Shaft rotation can be correlated to the pen trace.

(A-231)

▶ The Nepotometer, an instrument developed at N. C. State under USDA contract, was shown for the first time by Wright Machinery Co., Durham, N. C. The instrument measures the nepping potential of raw cotton and was first presented at the most recent Cotton Research Clinic [TW, May, '54, p. 95].

(A-232)

▶ For demonstration purposes, a continuous level indicator and a level control were hooked to a tank of liquid at the booth of Fielden Instrument Div., Robertshaw-Fulton Controls Co., Philadelphia, Pa. Both work with liquids, granular solids, viscous fluids, powder, etc. The level indicator is for visual inventory of storage tanks. The level control is used on size boxes, dyebecks, padders, etc.

(A-233)

▶ Two new counters were shown by Trumeter Co., New York 1, N. Y. One was a stylus counter, shaped like a pencil, that is used to count the material of one color in a textile design. The other counter was a batch counter made of two counters, one of which adds and the other subtracts alternately; so the counter does not have to be reset until the set number is changed.

(A-234)

Change Bobbins Automatically

A multibobbin device for automatically changing bobbins of yarn being tested for yarn strength was demonstrated on the single-end yarn-strength tester shown by Uster Corp., Charlotte, N. C.

Up to 10 bobbins of yarn to be tested are placed on spindles at the back of the tester, and the tester is set for the desired number of breaks on each bobbin. When one bobbin of yarn has been broken, the bobbin changer automatically ties the yarn tail to the tail of the next bobbin to be tested; and the preset number of breaks is made on the new bobbin.

(A-235)

▶ Four new developments were shown by Foxboro Co., Foxboro, Mass. The first is a complete control system for reversal of flow and rate of flow (with four-way valve) for package-dyeing machines. This system includes a recording instrument and a Model 59 flow controller.

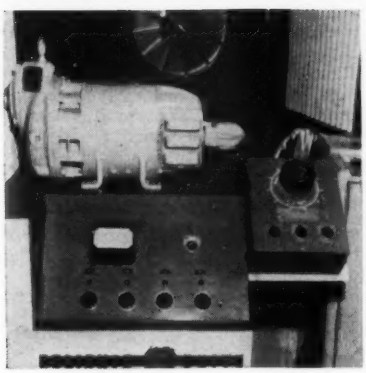
Another development shown was a No. 8 D-M motor for pneumatic-loading applications such as slashers, mangles, padders, etc. The No. 8 motor is reduced in size with a 33⅓% increase in diaphragm size.

The third development was a relative-humidity recorder and controller with an

(A-236)

CONTINUED ON PAGE 244

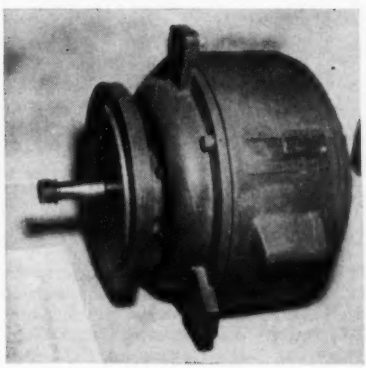
☆ Electrical Equipment—Motors, Controls, Lighting, etc. ☆



Multimotor Slasher Drive

A single-unit cabinet to house all controls for a multimotor slasher drive was shown by Reliance Electric & Engineering Co., Cleveland, Ohio. The drive is claimed to insure smooth operation and prevent rapid starts. Control is completely automatic. Dials with rheostats are furnished.

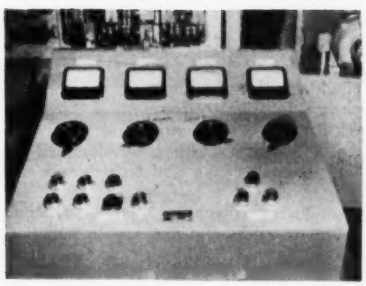
(A-237)



Loom Motor

A large-diameter loom motor, with a high-inertia flywheel said to insure smooth operation, was shown by General Electric Co., Apparatus Div., Schenectady, N. Y. The short length of the motor reduces the required floor space of looms. The motor requires lubrication only every 8,000 operating hours.

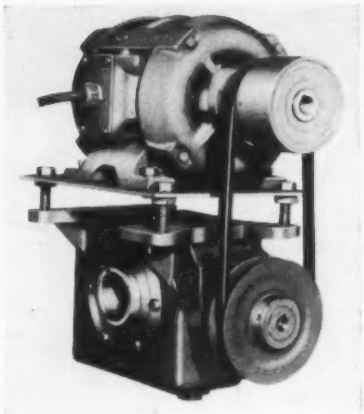
(A-238)



Slasher Drive Reverses

Multimotor drives with automatic speed control were shown by Century Electric Co., St. Louis, Mo. The controls, housed in a single unit, give speed controls from only one dial. The speed ratio regularly offered has an 8 to 1 adjustment, but the control can also be furnished with a speed range of 32 to 1 or more. Inching operation is provided by pushing a jog button. Momentary reversal of the drive motor is also possible.

(A-239)



Card Drive Has Standard Motor

A 1½-hp. 1,740-rpm. individual card drive was displayed by Allis-Chalmers Mfg. Co., Milwaukee, Wis. The drive is equipped with fans to blow lint and dirt away from the motor. A single-groove adjustable sheave permits setting the card cylinder at any speed between 157 and 189 rpm. The sheave is V-belt driven. The clutch develops ample torque to start and accelerate the card with a standard-torque motor.

(A-240)

Lint-Free Spinning-Frame Motor

An air-cooled spinning-frame motor was demonstrated by Reliance Electric & Engineering Co., Cleveland, Ohio. The motor is completely enclosed and is said to be lint free. The motor is made in 10-, 15-, and 20-hp. sizes and is designed to be mounted under the spinning frame.

(A-241)

Lintproof Loom Switch

A manual-starting loom switch for single-shuttle or multishuttle looms was shown by The Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

The switch is especially designed for lintproof protection and resists shock and vibration. Other features are: small size, push-button operation, good dependability, long life, and fast, easy installation. Minimum maintenance is expected. Overall size is $9\frac{1}{32}$x$7\frac{5}{32}$x$3\frac{3}{4}$ ins.

(A-242)

Accessible Motor Starter

A starter for motor control was demonstrated by Cutler-Hammer, Inc., Milwaukee, Wis. The starter has complete accessibility of every mounting screw, every terminal, and other parts. All screws face outward and are exposed by sliding off a cover. The complete mechanism comes out by just loosening three screws. The manufacturer says you can install it, try it, and forget it.

(A-243)

Motor Overload Protection

Three-coil overload protection for new or used motors is made possible by a new motor control shown by Cutler-Hammer, Inc., Milwaukee, Wis. Because the control is so low in cost, three-coil protection is now available to properly insure against motor burn-outs where two-coil protection has been used. The controls are said to properly protect motors under the three most-common conditions: wye-delta systems, mixed-phase loads, and mixed-horsepower loads.

(A-244)

▶ An electrical braking controller for a.c. motors, operated from a start-stop push-button station, was exhibited by Westinghouse Electric Corp., Pittsburgh, Pa. The control brakes motors up to 7½ hp. in 1 sec. on average loads. Prices for the controls range from $378 for a 1-hp. motor to $815 for a 15-hp. motor.

(A-245)

Cotton-Card Drive

A cotton-card drive that is said to be easily and quickly installed on existing cards was shown by Westinghouse Electric Corp., Pittsburgh, Pa. The drive consists of an enclosed gear unit and a totally enclosed nonventilated motor designed in a single unit. The motor has high starting torque specifically engineered to start, accelerate, and handle card loads.

(A-246)

Fluorescent Lamp

A new type of fluorescent lamp said to increase light output by 35% was shown by General Electric Co., Apparatus Div., Schenectady, N. Y. Its rated life is 7,500 burning hours. The lamp provides higher levels of lighting with no increase in initial costs or in costs of maintenance. The first lamps are 96 ins. in size. A 72-in. lamp is planned for later production.

(A-247)

▶ Agastat time-delay relays were shown with new dial heads calibrated A to E for easy operator instructions. The time-delay relays, solenoid actuated and pneumatically timed, have a red head for up to 200 secs. and a blue head for up to 15 mins.

(A-248)

▶ An application of its magnetic-amplifier adjustable-speed drive was demonstrated at the booth of Franklin Control Corp., Milwaukee, Wis. A spring-loaded motor simulating a processing machine was hooked up to a winder drive. As process speed varies, winder speed varies; but as load is changed, speed remains the same. No electronic tubes are used in the drive control.

(A-249)

▶ Three types of static eliminators — a metal-encased bar, a channel static bar, and a shockless static bar—were shown by the Simco Co., Lansdale, Pa.

(A-250)

Constant-Tension Slasher Drive

A multimotor slasher drive employing gear motors with magnetic-amplifier control was shown by Westinghouse Electric Corp., Pittsburgh, Pa. It is said to eliminate friction clutches, line shafting, bevel gears, cone pulleys, belt, and mechanical speed changers. The over-all speed of the slasher is set by a master rheostat.

(A-251)

Electronic Static Eliminator

An electronic static eliminator said to be applicable to several textile processes was shown by the Hewson Co., Newark, N. J. The instrument is said to effectively eliminate static on both woolen and cotton cards running all synthetic fibers.

(A-252)

▶ Electric brakes and clutches for small machines and instrument drives were shown by Warner Electric Brake & Clutch Co., Beloit, Wis. They can be used for indexing, inching, and jogging; rapid cycling; and synchronized starting and stopping. An armature, field, and rotor are the only working parts.

(A-253)

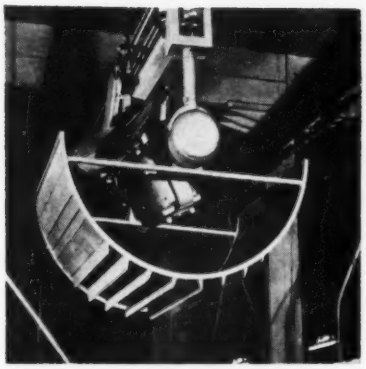
▶ An individual drive for cards was shown by Reliance Electric & Engineering Co., Cleveland, Ohio. The drive employs a floating worm-gear motor. The motor frame is also spring loaded to remove the shock from starting the card.

(A-254)

▶ A thread-breakage detector was shown by Micro Switch, Div. of Minneapolis-Honeywell Regulator Co. The detector incorporates a sealed mercury-switch unit and can be used as a tension indicator. The detector works at a very low tension range. It is possible to operate the switch with a 4-in. actuator to give a 1-gm. force.

(A-255)

Mill Engineering—Air Conditioning, Maintenance, Cleaning, Power Transmission, etc.



Automatic Room Cleaner

The new Allred Cleaner was shown by Bahnson Co., Winston-Salem, N. C. The cleaner blows perpendicular to the track and is said to clean both sides of ceiling beams, window openings, and other overhead mill equipment. Cleaners also blow downward over machinery, with U-shield blades cutting off any portion of the air blast to protect critical areas.

(A-256)

Spinning-Frame Drive

A variable-speed drive designed especially for spinning frames was shown by Reeves Pulley Co., Columbus, Ind. Front-roll speeds can be adjusted while the frame is in operation by turning a screw that controls the speed of the cylinder shaft. Components are a NEMA-standard constant-speed motor, one V-belt, a heavy cast-iron mounting base, a Reeves speed-changing mechanism, and two sets of adjustable cone-shaped disks. Compactness is said to be another feature.

(A-257)

▶ Walton Laboratories, Inc., Irvington, N. J., showed models of a dehumidifier and a humidifier. The dehumidifier is provided with a humidistat control that is said to be a very sensitive, sturdy instrument. The Model 30 humidifier is said to evaporate approximately 3 gals. per hr. and is designed for installations where the ceiling is high.

(A-258)

▶ New and improved revolving joints were shown by Barco Mfg. Co., Barrington, Ill. Features include a special steel shaft, low torque, a long bearing, quick repacking, and smaller size. Syphon attachments make double-flow joints. New swing joints featuring fewer parts and smaller size were also shown. The ball bearings will not fall out when the joint is taken apart.

(A-259)

Room Cleaner

Parks-Cramer Co., Fitchburg, Mass., showed a room cleaner for preventing lint accumulation on ceilings, beams, walls, posts, etc. The motor-driven blower unit travels on a two-rail track above head height. High-velocity air currents are delivered at various angles from several outlets. The air distributor revolves completely every 6 secs. as it travels along the track.

(A-260)

▶ Johnson Service Co., Milwaukee, Wis., showed two new automatic humidity controls. To detect the humidity, in one control a new mechanical sensitive element is used; in the other an electronic method is used.

(A-261)

▶ Tex-O-Roll, a welded stainless-steel cylinder roll with a uniform wall thickness of .002 in., was shown by A. B. Murray, Inc., Elizabeth, N. J. A demonstration model was running with a straightness tolerance of less than .002 in. per ft. The roll is a warehouse stock item.

(A-262)

▶ Multifak No. 2, an all-purpose anti-friction-bearing lubricant, was shown by The Texas Co., New York, N. Y. Used mostly for dyeing and finishing equipment, the lubricant works on machines running hot or cold, wet or dry, slow or fast, caustic or acid.

(A-263)

▶ A 3-D mill layout with accurate scale models was shown by Werner Textile Consultants, Larchmont, N. Y. This model mill was engineered by Werner for minimum labor costs and maximum efficiency, and the models were made by Visual Plant Layouts, Inc.

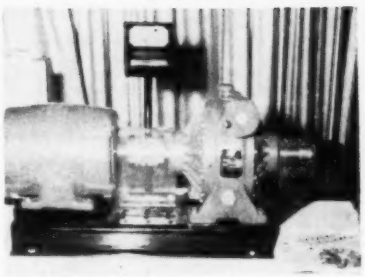
(A-264)

▶ A new variable-speed drive shown by Reeves Pulley Co., Columbus, Ind., was the Flexi-Speed drive, available in ½-, ¾-, and 1-hp. capacities. The drive converts any standard constant-speed motor to a variable-speed drive with speed ratios up to 8 to 1.

(A-265)

▶ Aluminum beam barrels for rebuilding loom beams were shown by Aluminum Co. of America, Pittsburgh, Pa. The standard warehouse shape has a 6-in. O.D. and ¼-in. walls. Metal for the barrels has recently become available in quantity.

(A-266)



Speed Variator

The variable-speed drive shown by Cleveland Worm & Gear Co., Cleveland, Ohio, is now available in 1-hp., 1,150-rpm. size, but it will be made in ½- to 10-hp. sizes. It provides a variable output over a 9 to 1 range from a constant-speed source. A feature is a control dial that can be calibrated in any desired units.

(A-267)

▶ Vibration pads made of layers of granulated cork and sisal fiber, impregnated with vinyl resins, were shown by Clark, Cutler, McDermott Co., Franklin, Mass. The outer surface has a cross-grid embossing. A testing machine applied 20 tons of pressure to the pads with no deterioration of shape. No bolts, cement, or cleaning are necessary for installation.

(A-268)

▶ Two new developments were shown by Metallizing Co. of America, Chicago, Ill. One is a dot-weld pistol for reclaiming detective castings. (A complete installation costs slightly over $600.) The second development is the Mogulectric gun for metallizing. This metal-spray gun is used to spray parts, shafting, and rolls.

(A-269)

▶ An electric power sweeper was shown by G. H. Tennant Co., Minneapolis, Minn. This sweeper cleans a 36-in. path and 60,000 sq. ft. per hr. (48-in. path and 77,220 sq. ft. per hr. with side brush). It runs a full shift on one battery charge. Cost is 10¢ per operating hour.

(A-270)

▶ Two portable lubricating units were shown by Stewart-Warner Corp., Alemite Div., Chicago, Ill. One unit, mounted on a caddy-type trolley, consists of an electric high-pressure grease pump. The second unit has a hose on a reel for lubricating Alemite fittings up to 50 ft. from the trolley. Two bucket pumps and one gear-case oiler provide a unit that will do any greasing job in a textile mill.

(A-271)

For more information circle A-number on Reader Service post card.

▶ Revo-tool is the name given to the maintenance tool used for removing hard deposits, rust, scale, and paint shown by G. H. Tennant Co., Minneapolis, Minn. The tool has trigger-operated steel cutters, which cut off deposits on almost any kind of surface. Models for 115- and 230-v. lines are available.

(A-272)

▶ The Morse-Matic clutch was displayed by Morse Chain Co., Detroit, Mich. Spring-tension weights can be set to control the drive at any desired shaft speed on electric motors or gasoline engines.

(A-273)

▶ A fractional-horsepower drive, No. 100, was demonstrated by Reeves Pulley Co., Columbus, Ind. Best used on auxiliary equipment, the drive allows a possible 115 different location arrangements.

(A-274)

▶ An Oil-Mist unit with a 1-gal. capacity was shown by Stewart-Warner Corp., Alemite Div., Chicago, Ill. The larger capacity allows the unit to run 10 times longer than the previous units. A low-level indicator, an alarm, or a stop motion provides safety.

(A-275)

▶ On the revolving joints made by Barco Mfg. Co., Barrington, Ill., a molybdenum coating on the rotating sleeve and inner and outer bearing races gives a dry and permanent lubrication. Barco also showed a new sling joint with the moving parts coated with molybdenum.

(A-276)

▶ Two new brushes were shown by Fuller Brush Co., Hartford, Conn. Blade sweeps are for manual floor sweeping, and two blades can be used as a floor plow. The blades are available with various fibers, and the head can be positioned in all directions.

The other Fuller brush was a rotary brush for power floor-sweeping machines. Six spiral brush strips are able to pick up lint and small particles. Brushes with any fibers needed are available for 24- and 36-in. sweepers.

(A-277)

▶ Cam clutches working on the new C&K looms were also shown by the manufacturer. Morse Chain Co., Detroit 10, Mich. The cam clutch is used for backstopping one-directional drives and indexing and ratcheting, and it automatically performs the function of manually operated clutches.

(A-278)

▶ Improvements in the Auto-Airmat air filter shown by American Air Filter Co., Inc., Louisville, Ky., include a run-out warning device for the mat and an improved control mechanism.

(A-279)

▶ Field repair is made possible by the new design of the all-purpose ball-bearing rotary union shown by Perfecting Service Co., Charlotte, N. C. Old models can be converted to permit field repair with a new cartridge.

(A-280)

▶ The cold-forged socket setscrews made by Holo-Krome Screw Corp., Hartford, Conn., were shown for the first time. The heat-treated sockets are said to be uniformly accurate to their complete depth.

(A-281)

▶ Neoprene mats called Neo-Sponge were shown to the textile industry for the first time by American Floor Products Co., Washington, D. C. The mats are said to reduce operator fatigue. Another product shown was cast-aluminum abrasive nosings for platforms and stairs.

(A-282)

▶ A roof fan that discharges upward away from the roof and supply-fan intakes was shown by Andrews & Goodrich, Inc., Boston, Mass.

(A-283)

▶ Platecoils were shown by Tranter Mfg. Inc., Lansing, Mich. The Platecoils are used for heat recovery, heating size solutions and dyebecks, cooling caustic solutions, air heating, and in continuous processing lines.

(A-284)

▶ A variable-delivery piston pump developed specifically as slasher-drive equipment was shown by Vickers, Inc., Detroit, Mich. The pumps are used in split transmissions, and low inertia forces permit the use of small controls.

(A-285)

▶ Type T felt shock absorbers for a preparatory machine were on display at the booth of The Felters Co., Boston, Mass. The Type T felt is denser than other types.

(A-286)

▶ A light-duty floor-maintenance machine for scrubbing and polishing small offices was shown by Finnell System, Inc., Elkhart, Ind. Supplied with 12- or 16-in.-dia. solid brushes, the machine has a center brush feed for waxing and scrubbing.

(A-287)

CONTINUED ON PAGE 244

Shown at Manchester

THE FOLLOWING EQUIPMENT on display at Atlantic City was shown last fall at the Textile Recorder International Exhibition of Textile Machinery and Accessories in Manchester, England, and was described in the December, 1953, issue of TEXTILE WORLD, pages 107-118.

Platt's MR-2 Spinning Frame

The MR-2 spinning frame with a 9-in. lift and 1¾-in. rings was shown by Platt Bros. (Sales) Ltd., Oldham, England, and Atkinson, Haserick & Co., Boston, Mass. The frame was spinning 80s combed-cotton yarn with a Casablancas TNX (three-apron) drafting system at a spindle speed of 10,500 rpm.

(A-288)

Uster's Lap-Evenness Tester

Uster Corp., Charlotte, N. C., showed the Lap Varimeter for testing the evenness of picker laps by electronically converting picker-lap thickness to a signal that can be recorded. This tester was shown at Manchester by Zellweger Ltd., Uster, Switzerland.

(A-289)

▶ Alfred Hofmann Needle Works, Inc., Union City, N. J., showed a new testing machine. The device, known as Projectina, enlarges a section of fabric, yarn, or fiber and projects the image on a screen. The tester was shown at Manchester by Hans Kloti, Zurich, Switzerland.

(A-290)

Platt's Fiber-Blending Line

A fiber-blending line designed for synthetic fibers was shown by Platt Bros. (Sales) Ltd., Oldham, England, and Atkinson, Haserick & Co., Boston, Mass. The line consists of four machines: lattice openers, a blender that works on a system of metering fiber, a picker (or intensive opener) with a Kirschner beater, and a lap converter that delivers 20 lbs. of sliver an hour.

(A-291)

Automatic Jig

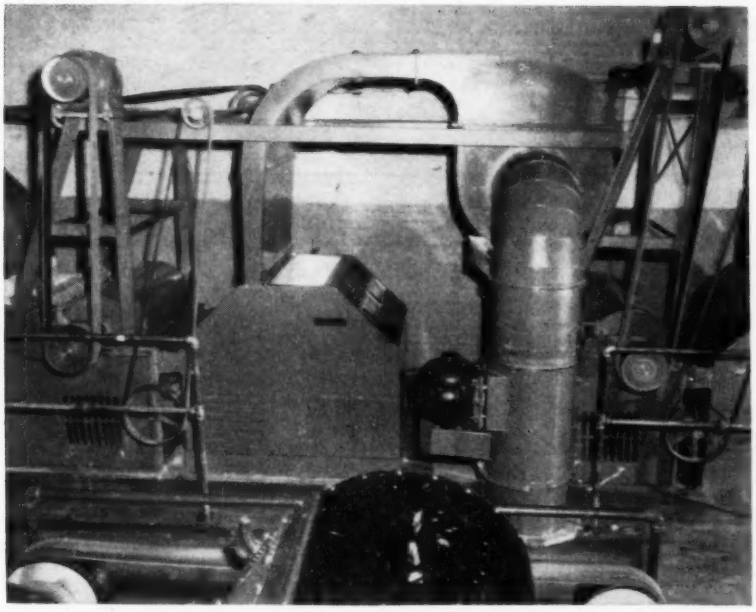
A jig, known as an Autojig, with controls to make it fully automatic was shown by Cook-P&N Machine Co., Inc., Boston, Mass. The machine was shown at Manchester by F. Smith & Co. Ltd., Rochdale, England.

(A-292)

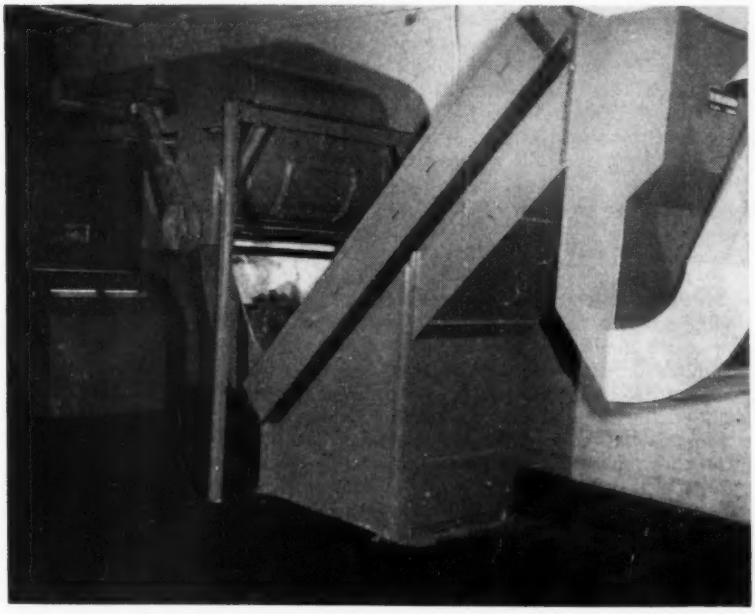
▶ An 82-in. filling-mixing loom weaving rayon and acetate flannel at 156 ppm. was shown by Crompton & Knowles Loom Works, Worcester, Mass. The W-3 AC loom had no loom arch and was running as a 2x1 loom.

(A-293)

Two Jet Cleaners Improve OPENING at Danville Yarn Mills



FIRST JET CLEANER is between a No. 4 and a No. 5 Aldrich opener. Both jet cleaners take out the same amount of waste.



OPENING-LINE SECTION from the second Super-Jet to the Superior cleaner is built over the doorway to the card room.

Here are four improvements that Danville Yarn Mills is getting with jet cleaners in its opening line:

- **Blows per inch reduced from 50 to 9**
- **Good cotton is not removed**
- **Down-the-line processing improved**
- **The jet cleaners require little maintenance**

By THOMAS B. WINSTON
Assistant Editor, TEXTILE WORLD

Danville Yarn Mills, Bon Air, Ala., is opening at 850 lbs. per hr. with two new jet cleaners in its opening line. Since the opening line was completely changed only three years ago, Clifford L. Hall, superintendent, had to think twice before installing the new cleaners. According to Mr. Hall, the main advantages of the jet cleaners are a reduction in the blows per inch from 50 to 9 and a reduction in the amount of good cotton removed.

Danville's new opening line is taking out the same percentage of waste ($1\frac{3}{4}\%$) as before, but the waste is a different kind. Before, a lot of good lint was taken out; now, the waste is actually what waste is supposed to be—trash, seeds, etc.

As a result, laps are better and carding is better. Also, Mr. Hall has observed about half as much loose lint in the mill and a definite reduction in ends down in spinning.

After the new opening line was set up, Mr. Hall spent about a week adjusting the jets to give the cleaning he wanted. Each jet cleaner takes out about the same amount of waste. A thorough analysis of waste hasn't been necessary because all picker-room waste at Danville goes into motes.

Another advantage of the Super-Jets, according to Mr. Hall, is the minimum maintenance necessary. There is nothing to learn about them;

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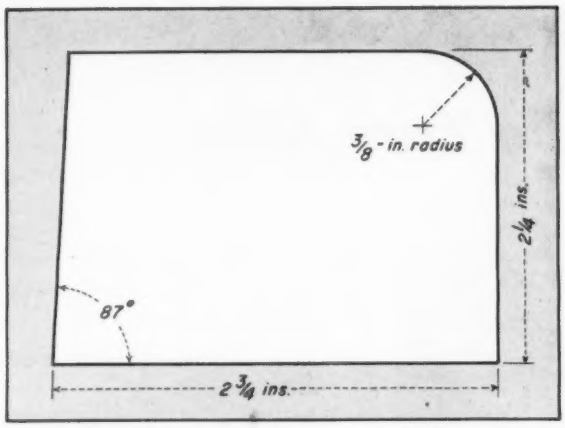
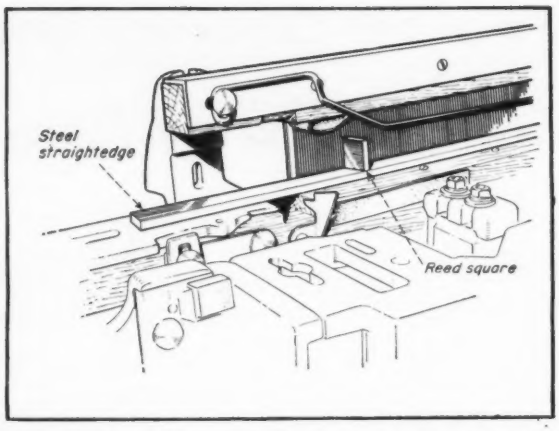


LAY-SWORD GAUGE is used to check the surface of the lay sword that contacts the back box plates to be sure the top of the surface projects 3° over the bottom surface. When the box plates are properly applied to this inclined surface, they will not raise up.



FIRST STEP in making a race-plate gauge is to align the reed and back box plates on one loom. Have the reed square and the box plates in line with each other 0.008 in. in front of the reed and perfectly square. Then remove both box plates from the lay swords.

How To ALIGN X-2 LOOM LAYS For Smooth-Running Looms

No amount of loom overhauling can do as much good as a correct lay-aligning job. Lays out of alignment cause excessive second-quality cloth and low weave-room efficiency. A correct lay-aligning job will correct these faulty conditions, and in addition—

- **Shuttle life will be increased**
- **Warp and filling breaks will decrease**
- **Loom-parts costs will be lower**
- **Looms will run better**

By RICHARD B. PRESSLEY, Associate Editor, TEXTILE WORLD

LAY ALIGNMENT can improve weave-room running conditions so much that second-quality cloth on difficult styles can be cut more than three-fourths. Production will also be improved.

Looms are thrown out of alignment by being moved. They also get out of alignment by running over a long period of time or running under excessive workloads. Worn parts result in misalignment. For example, worn rocker shafts or rocker-shaft boxes let the lay drop; then all parts relative to the lay motion are out of alignment.

Regularly scheduled attention should be given to lay alignment. If coarse yarn numbers are woven, checking lays at the end of every warp may be too often. Four checks each year is about right under average weaving conditions. Lays certainly need a complete check-up with basic realigning at least every two years.

Every time looms are realigned, the gauges furnished by the loom manufacturer for the exact loom order number must be used. Looms can't be realigned correctly without the correct gauges.

Since X-2 looms are usually run at higher speeds than other looms, the alignment problem is greater on these looms. For aligning X-2 looms, check your loom aligning methods against these 12 complete and correct steps:

1. Take the lost motion out of the rocker and boxes. Replace both the boxes and rocker shaft if necessary. When rocker-shaft boxes are replaced, remove the old dowel pins and bore new holes for new dowel pins.

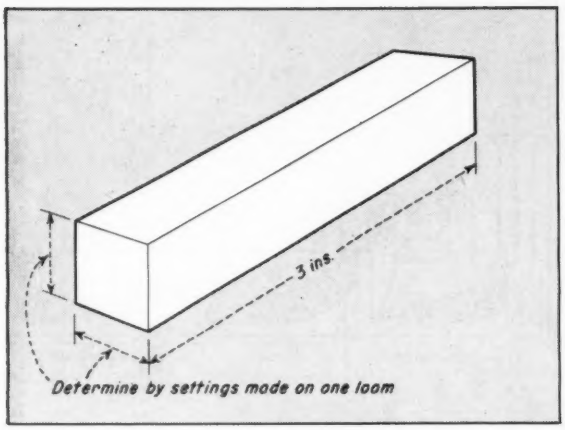
When adjustments are made on the rocker-shaft boxes, remove the dowels, bore new holes, and put in new dowels. (When you completely align lays, wait until the lay height is set before replacing dowels.)

2. Center the lay. Be sure the rocker-shaft collars are tight. Loosen the lay-guide head clamp, and loosen the setscrews in the sword foot if the solid-type foot is used. If the clamping-type sword foot is used, loosen the setscrews and the bolts.

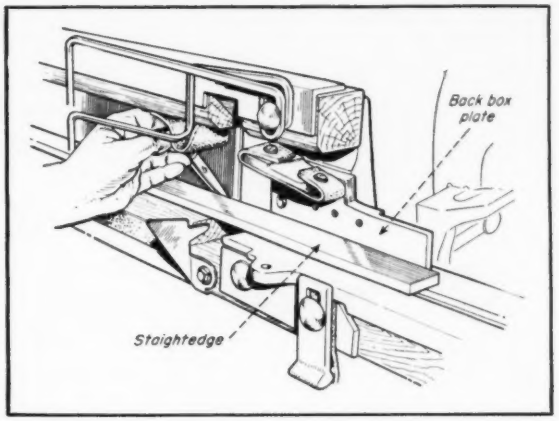
Place the lay-centering gauge on the lay beam so that the gauge lines up with the center mark of the lay and the breastbeam. If the lay is off center, tap either the left-hand or right-hand sword foot to center the gauge.

When the lay is centered, retighten the setscrews (or setscrews and bolts) in the sword feet. Then retighten the lay-guide head clamp.

3. Set the lay height to the loom-



SECOND STEP finishes the race-plate gauge. A 1/32-in. thickness gauge is placed between each end of the reed and straightedge, and the distance between the straightedge and lay swords is measured. The gauges are made from square steel or hardwood.



BACK BOX PLATES are aligned to each other and set 0.008 in. in front of the reed after the reed is squared to a straightedge laid flat on the race plate. The back edge of the race plate was trimmed flush when the straightedge was against the race-plate gauges.

side, lay end, and front of the breastbeam. Use the lay-height gauge. Since the rocker-shaft boxes are doweled to the loomside, the dowels will have to be removed, new dowel holes drilled, and new dowels put in if the lay is raised or lowered.

If a new rocker shaft and boxes have been put in, the boxes will be doweled at this time.

4. Recheck the lay-centering gauge to the center of the breastbeam after the rocker-shaft boxes are raised or lowered.

5. Set the crank arms at the front-center position with the lay-positioning gauge.

6. An alignment setting that isn't commonly known but which will do a lot to keep back box plates in true alignment after new lay swords have been put on is: While the back box plate is still off, fit the surface of the lay swords that touch the back box plate to a gauge. The gauge is made from 1/16-in. sheet metal and is 2¾ ins. wide and 2¼ ins. high. The back surface is cut to form an 87° angle.

This gauge is used to make sure the swords are at the correct angle (3° forward at the top of the back box-plate surface) to the lay so that the box plate will not raise up when it's properly aligned.

7. Align the lay and check the lay beam for "wind." If the lay beam is warped or twisted, this condition must be corrected by shimming between the lay sword and the lay beam at one of the lay ends.

For a quick check, use a piece of angle iron the full length of the lay beam and about ¼ in. thick and 3 ins. wide. Machine one side of the angle iron to a true line, and lay the machined surface on two 3-in. lengths of ½-in. square cold-rolled steel stock placed on the lay beam. Then try to tilt the angle iron with your finger tips. Warped surfaces will show quickly. Shim the lay beam to correct the fault.

Use the angle iron on the lay ends and shim them to correct any warped conditions.

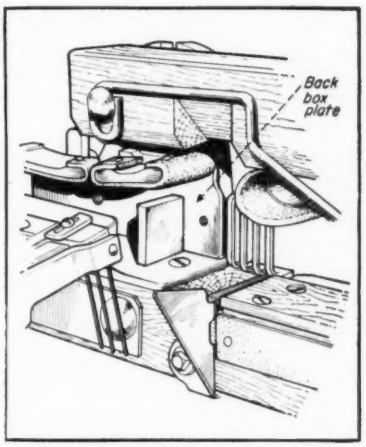
Use a straightedge the full length of the lay to check the race plates. Place the straightedge with the edge up on the race plate, and check the full widthwise surface from end to end with a 0.003-in. feeler gauge. Plane the surface where necessary to correct high and low spots.

If the lay ends are too low, shim them with an oil-base paper or brass shim stock.

If the lay ends are too high after the race-plate surface has been planed to level it, the old race plates must be removed and new ones added to bring the shuttle race up level with the lay ends. Shimming may be necessary sometimes.

8. Check the back edge of the race plate to the correct reed position.

To quickly align several looms, you will need to make two block gauges. Align the reed and back box plates on one loom with a long straightedge to determine the size of the gauges. After the reed is aligned 0.008 in. behind the box plates, remove the box plates and place a 1/32-in. thickness gauge against each end of the front bottom surface of the reed. Push the straightedge against the thickness gauges, and measure the distance between each end of the straightedge and the lay-sword surfaces at the back box-plate contact point. Make two square wood or steel gauges the thickness just measured. Make the gauges about 3 ins. long. These gauges can be used to establish the position of the back edge of the race plate on any X-2 loom of the same order number.



THE REED SQUARE is used to square the back box plates with the lay ends after they are aligned to the reed and to each other. Adjustable box guides are aligned by moving three setscrews. Fixed box plates must be filed or shimmed to fit.

After race plates and lay ends are aligned, place the wood on steel gauges against the lay swords (with the back box plates off), and place the long straightedge against the blocks. Check the relation of the race plate to the straightedge and trim the edge where necessary so that the race-plate and straightedge surfaces will be flush.

9. Place the reed in the reed cut, and add the handrail. Use the reed square on the long straightedge placed flat on the race plate to square the reed. Cut the handrail at the lay-

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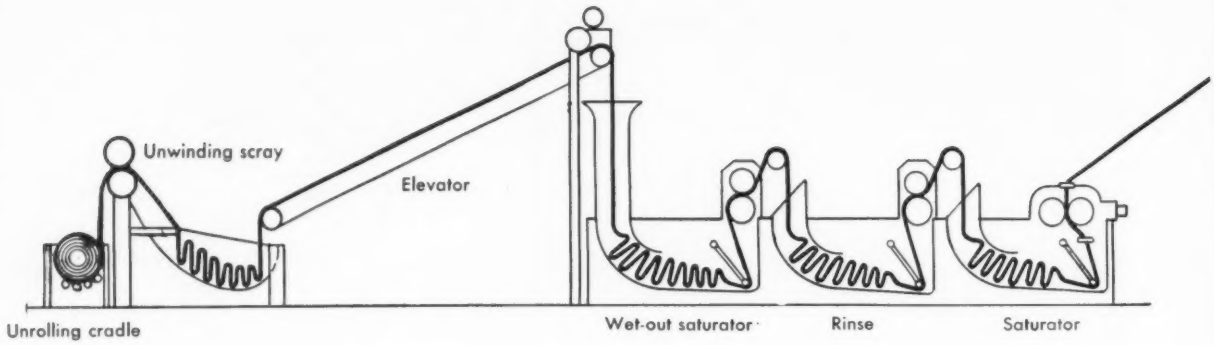


This KNIT-GOODS BLEACHING

▶ Designed for tension-free bleaching of knit goods to insure minimum shrinkage after laundering, the continuous range also produces a soft hand and a consistently uniform white finish.

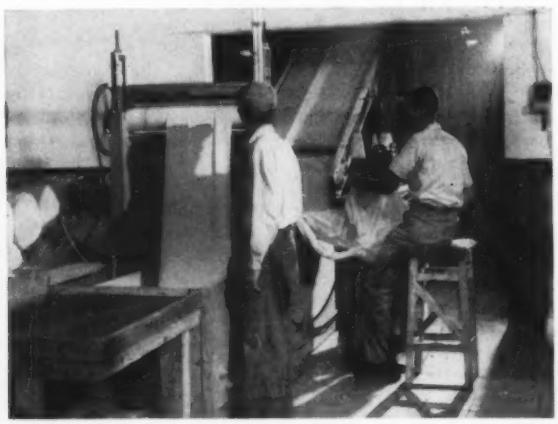
By B. K. EASTON
Buffalo Electro-Chemical Co. Inc.

Knitting and other operations at Union Underwear Co. were described in TW, April, '54, p. 76

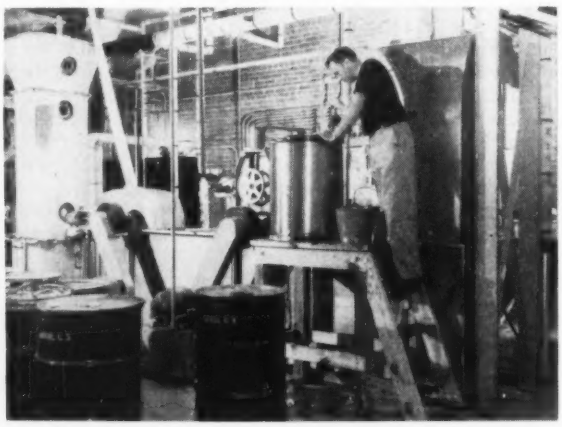
COLLABORATION BETWEEN engineers and technicians of Wiesner-Rapp Co., Inc., and Buffalo Electro-Chemical Co., Inc., has resulted in a continuous bleaching range at the Union Underwear Co.'s plant at Campbellsville, Ky., to process 140,000 lbs. of cloth weekly. With the exception of the scray operation, only two operators are required.

The first step in the continuous bleaching operation is the conversion of the 200-yd. rolls from the knitting room to a continuous length of cloth. The tubular cloth of various weights, sizes, and styles, as called for by production requirements, is fed through rolls to a scray. A surplus of cloth is collected to allow time for each roll to be sewed to its predecessor. A colored cloth is sewed at each change of cloth construction or size to serve as a flag to advise subsequent operators of the possible need for a chemical or a mechanical adjustment.

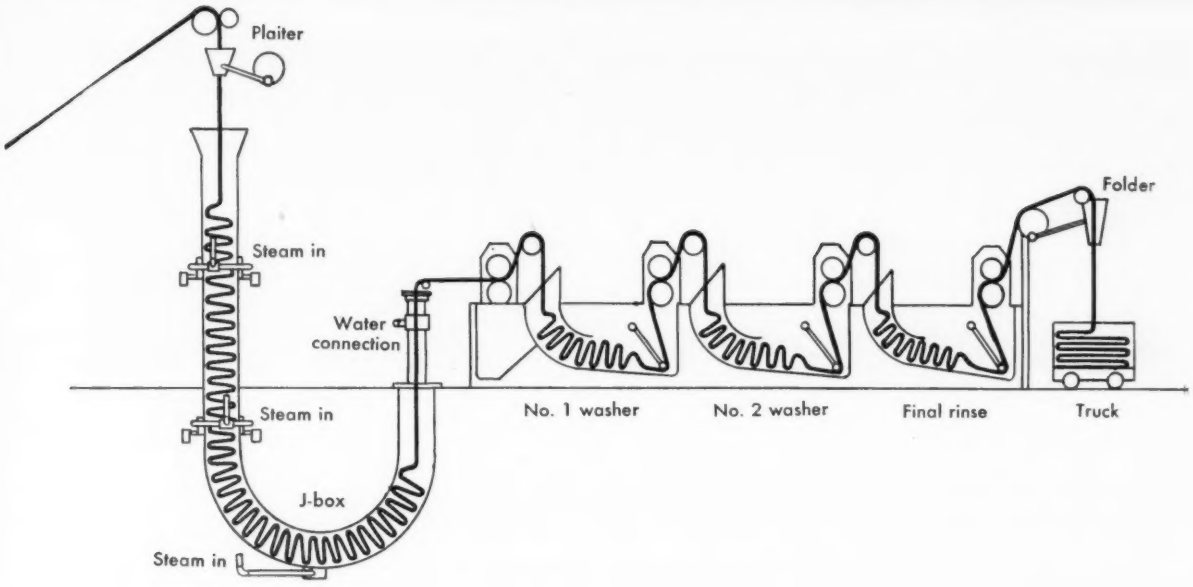
From the scray, the material is lifted continuously on an 18-ft. conveyor belt, at a 40° angle, to the top of the saturator entrance chute and falls into the wet-out saturator. Wetting out is done at about 140° F. Recirculated spent liquor from the wet J-box and



CLOTH ROLLS are fed from the roll bin to the scray, sewed together, and lifted on the 18-ft. conveyor belt to the entrance of the wet-out saturator.



WET-OUT TANK receives the gray fabric from the conveyor. The cloth is delivered to the chemical saturator and to the bucket-type folder above the J-box.



RANGE Processes 140,000 Lbs. Weekly

from the squeeze rolls preceding the first washer is used with the wetting agent.

Cloth Saturated for 20 to 30 Secs.

After passing through the warm-water wetting-out bath, the cloth is squeezed by pneumatically controlled squeeze rolls to remove excess liquor and dropped into the bleaching solution. The cloth remains in this saturator for 20 to 30 secs. to allow complete interchange of the water on the cloth and the bleaching chemicals in the saturator.

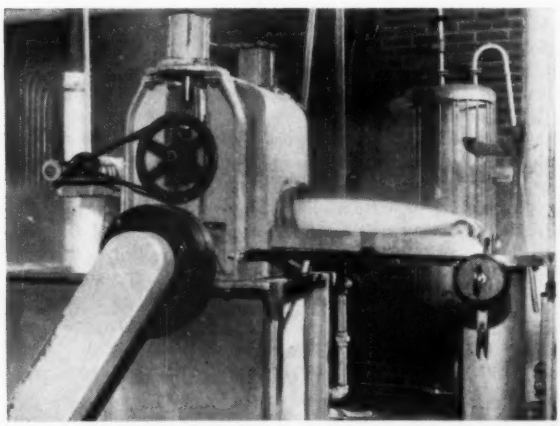
The bleach liquor is 1¾% to 2½% hydrogen peroxide 50%, 2% to 3% silicate of soda, and ¼% to ¾% caustic soda. These chemicals are supplied to the saturator by proportioning pumps. The speed of the range is controlled to provide a constant weight of cloth passing through the range regardless of changes in cloth constructions. This means that the chemical formula has to be altered only when cloth with unusual bleaching characteristics is processed.

A 50-gal. aluminum tank for the hydrogen peroxide stands near the pump. This tank is supplied by an outside 5,000-gal. storage tank. Sodium silicate and liquid caustic soda are supplied to the pumps from drums placed on an elevated rack in an adjoining room.

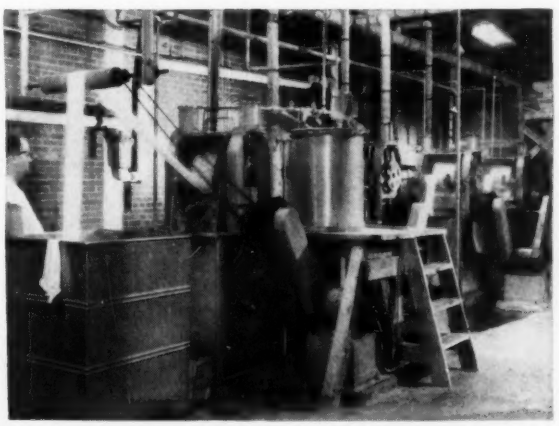
The temperature of the chemical saturator is kept between 110 and 115° F. The chemicals and liquor are maintained at a constant level, and a chemical analysis by hydrogen peroxide and an alkali titration is run every 30 mins.

Bucket-Type Piler Reduces Pull

The material passes through squeeze rolls adjusted to deliver the cloth into the J-box with about 100%



CLOTH LEAVES THE J-BOX and enters the first washer. A stream of water rinses the cloth, and the surplus water drops into the J-box to help supply the wet-out bath.



FIRST AND SECOND WASHERS are followed by a sour-fluorescent dye tank. The cloth is piled in stainless-steel trucks ready for the Tube-Tex machine.

saturation. There is only a short lift to the piling mechanism that features a bucket-type piler instead of the usual nip rolls. The piler is used for plaiting material into the J-box to reduce pull on the cloth. The J-box has two steam chests in the straight section to give flexibility to the system.

Water is supplied to the J-box at about 180° F. by a perforated ring, through which the cloth passes at the exit of the box. The reservoir is maintained at a constant level in the U-section of the J-box to provide lubrication and assure a freer passage of the cloth around the turn.

The temperature of the cloth in the J-box is controlled by Foxboro instruments. An averaging system is used so that instead of relying upon one spot in the J for steam control, the average of three separate spots is recorded and used to regulate the steam flow. The thermocouples are staggered across the box and at different heights between the top of the J and the top steam chest. An identical set of thermocouples is installed between the top and bottom steam chests to provide control when lower cloth levels are carried in the J-box.

This steam control prevents excess steam issuing from the top of the J-box, yet assures adequate steam to uniformly heat the cloth pack to the proper temperature. The absence of excess steam at the J-box, together with the Carrier air-conditioning unit in the bleach house, holds condensation drippings from the ceiling to a minimum even under bad weather conditions.

The goods remain in the J-box for 45 to 50 mins.

After the preliminary wash at the mouth of the J, the goods pass through two washers, through a sour and fluorescent dyebath, and into stainless-steel trucks.

The entire bleach and wash require about one hour.

The range is 56 ft. long, and the units are grouped in a straight line to avoid turns that might distort the cloth. With the exception of rubber rolls, all the bleaching range following the gray-goods conveyor is stainless steel.

Two Sets of Motors Control Cloth

The two sets of motors driving the moving equipment receive their power from independent a.c.-d.c. generator sets.

The first set of motors:

1. Drives the conveyor from the scray to the wet-out saturator
2. Runs the squeeze rolls on the wet-out saturator
3. Runs the squeeze rolls on the chemical saturator
4. Runs the traveling pot eye at the plaiter
5. Runs the bucket piler

The second set of motors:

1. Runs the squeeze rolls drawing the cloth from the J-box
2. Runs the squeeze rolls on the first washer
3. Runs the squeeze rolls on the second washer
4. Runs the squeeze rolls on the last tank and delivers cloth to the trucks

Running speeds of each section are independently controlled from separate control panels. Speed meters indicate the rate and allow the operator accurate control as the cloth passes from one section to the other. Small-range controls for each motor assure the right amount of slack cloth between operations and prevent tight strands that would slack cloth between operations and prevent tight strands that would stretch the cloth.

Equipment Cleaned Every Week

Production of the bleached cloth begins at 7 a.m. Monday with the

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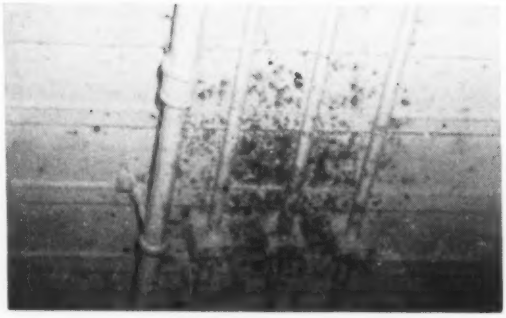
MINUTE MYSTERY

How Did the Grease Get on the Ceiling?



The overhead cleaning men in our weave room were perplexed by grease spots on the ceiling. An occasional leak from a spinning-frame motor on the floor above was encountered, but these leaks were oil, not grease. The grease was spattered over a 2-ft. area as though someone had tossed a handful against the ceiling.

We first thought that it might be rosin seeping from the subflooring of the room above; but closer examination disclosed that it was actually grease, and grease that had already been used as a lubricant.

All concerned had just about decided that the greasy spots were the work of some practical joker when both the origin and manner of projection were discovered by pure accident.

The second hand was standing behind a loom one day watching a loomfixer make some minor adjustments. The fixer started the loom, which ran several picks and slammed off. Some grease struck the second hand below the eye, and he saw a fresh spattering of grease on the ceiling as he looked up.

Tracing the angle from which the grease came, we found that it was being shot from the rear grease fitting of the crank arm. The spring that held the retaining ball in the fitting had broken. When the loom slammed, the crankarm spring absorbed some of the shock; and the crankarm pin acted like the plunger in a water pistol. The grease was forced through the small hole in the fitting with sufficient velocity to reach the ceiling. W. C. Westbrook, *Trion, Ga.*

See page 135

How To Set Up STOCK CONTROLS In a Thread Mill

► **With a big storage problem, thread mills should keep only enough finished goods on hand to cover 10 weeks' sales**

► **To maintain this inventory, it's best to set up stock control for—**

- **Finished goods**
- **Dyed yarn**
- **Gray yarn**
- **Gray warps**

By J. RAYMOND GAINEY, Pepperell Mfg. Co.

IN ESTABLISHING INVENTORY CONTROLS in a sewing-thread mill, these known facts must be taken into consideration:

1. The goods are sold directly to the retail trade or to dress manufacturers, and immediate delivery is expected.

2. The goods are packed for eye-appeal, and the put-ups are bulky and require much space for storage. A lot of colors also make storage space costly.

3. A popular shade today may have no demand a few months from now, and excessive stockpiling could result in a substantial loss to the company.

4. The same yarn numbers, and quite often the same shades, are used for more than one finished put-up; for example, spools for household use and tubes and cones for the dress trade.

Determine Processing Times

With these facts in mind, an analysis of the operations involved and the time required to get the goods into a finished state must be made.

In one thread mill, it was found that by proper planning, dyed yarn is wound and packed in approximately 48 hrs. and yarn ready for dyeing can be processed in 24 to 48 hrs. These figures are near the minimum time required; but the minimum time is all that is necessary to know, for it is reasonable to assume that there would not be a demand for quick action except for one or two shades at a time.

To keep the stock of finished goods at a reasonable level and to keep the in-process stock at a comparable level, it is best to keep inventories and book records at the following points:

1. Finished goods
2. Dyed yarn
3. Gray yarn
4. Gray warps

Warehouse Covers 10 Weeks

Since deliveries are of primary importance, the first stock control should be established at the finished-goods warehouse. By an analysis of at least one year's sales, an average shipment per week can be determined. It is essential that the experience of at least a year be used because the sale of many shades varies with the seasons of the year. From these figures, the sales volume of about 10 weeks is set as a satisfactory maximum stock level to carry of any one shade. This level should be the maximum stock accumulation and should include the actual stock of finished goods packed plus stock in the process of being finished, wound, and packed.

Once the 10 weeks' supply has been reached, finished winding of that shade should be stopped until the stock has been reduced to a satisfactory working balance. The reduction should be at least three weeks' average sales; so a reorder point is set at seven weeks' average sales, at which time enough stock is ordered to bring the stock back to cover 10 weeks' average sales.

For example, a stock of 1,000 boxes for one shade may be the proper inventory to carry as finished goods. When the stock is reduced to 700, a finishing order is issued for 300 boxes. If the stock is further reduced to 400 before the first finishing order has been filled, another order is issued, and so on. In this manner, a 10 weeks' supply is always in the warehouse ready for shipment, or in the winding department.

Multiple copies of the finishing order are made out, one for each operation required, one for the expediter, and one for the stock records.

As a process is completed, a copy of the order is sent to the expediter; so the location of the yarn is known at all times. The expediter can contact the proper supervisor at any time to see that top priority is given to the completion of orders covering stock that has been reduced to the danger point.

Stock Dye Lot at Winders

Since the finished-goods stock is kept at a low level, it is necessary that another inventory of dyed yarn be kept ready for the final winding and put-up. The finishing orders draw yarn out of this inventory.

There are several reasons for maintaining an inventory at this point: (1) less storage space is required, (2) the yarn can be put up in any package, and (3) economical dye lots can be run.

If you dye each spool lot-requirement alone, it might mean that the labor cost of dyeing would be two or three times as great as the dyeing of the combined needs of a shade for the several put-ups. At this point, an economical dye lot constitutes the minimum inventory. Here again a

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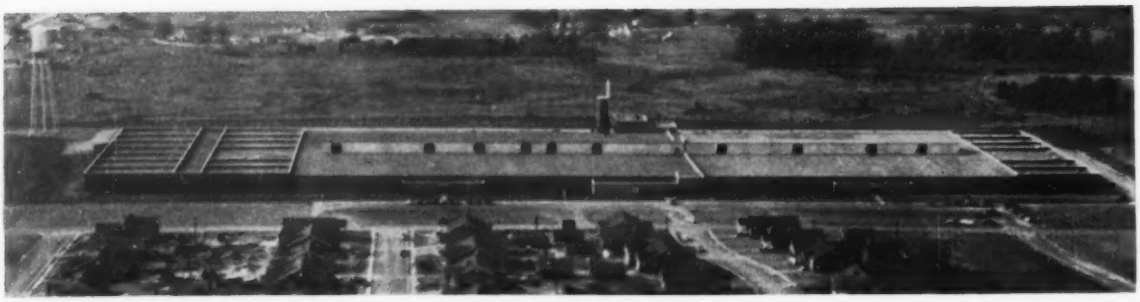


Greenwood's New PRINT-CLOTH MILL

THE NEW DURST PLANT of Greenwood Mills, Greenwood, S. C., is a 10-acre, one-story, windowless print-cloth mill that features straight-line flow, automatic ceiling and frame cleaning, materials handling, and engineering features such as automatic starch and coal handling, and high lighting levels.

Built by the construction department of Greenwood Mills, the Durst Plant measures 1,230 ft. by 356 ft.

Engineering Features

Straight-line flow of stock is the main layout feature. Bales of cotton are unloaded and stored in warehouses at one end of the mill, the stock moves in a straight line through all the processes to the cloth room at the other end, and cloth is shipped from that end.

Service departments are located at the middle of the building.

Air Changing

The Carrier evaporative-cooling system, designed by the mill staff so that refrigeration can be added later if desired, consists of 10 separate air-changing units enclosed in a monitor that extends the length of the building. Each unit has two axial-flow propeller-type stainless-steel fans with a capacity of 70,000 cu. ft. per min. each. Each fan is driven by a 50-hp. motor. The water pump for each unit has a 20-hp. motor.

Since each of the 10 units is the same, only one type of repair parts needs to be stocked, and maintenance is simplified.

There are 24 automatic zone controls for the entire plant, and each zone has automatic temperature and humidity recording.

Boiler Room

Steam for slashing and heating is provided by a Babcock and Wilcox boiler than can produce 16,000 lbs. per hr. at 125 psi. Actual load now is about 8,000 lbs. per hr. The boiler house is behind the plant, across the railroad spur, and has 4,300 sq. ft. of floor space.

The spreader-type stoker has standby equipment for oil and provision for natural gas when available.

Coal is dumped from the cars directly into a hopper below the tracks and conveyed to a silo that holds 200 tons. The coal is then fed to the boiler automatically.

Underground lines take the steam to the mill.

Water Supply

For fire protection, a 20-million-gallon storage pond and a 100-ft.-high 100,000-gal. tank are connected with an 8-in. main that circles the mill. The pond can be emptied by two 1,000-gpm. pumps.

An auxiliary diesel pump stands by in case the electric pump can't operate.

Drinking water comes from the city system through company-owned mains.

Electricity

At a central power station, electric current is stepped down to 550 v. from 13,800 v. by two three-phase transformers of 3,000-kva. each.

Each load center through the mill has main breakers with three-conductor plug-in bus conductors.

At the panel-board centers, air-break switches govern power supply to the machines.

Most of the wiring is under the floor, and there is a separate outlet for each machine.

Maximum plant load is about 4,500 kw., and total horsepower is about 5,025.

Lighting

Slimline continuous-strip fluorescent lights are used throughout the manufacturing areas. Lighting levels, in foot-candles, are:

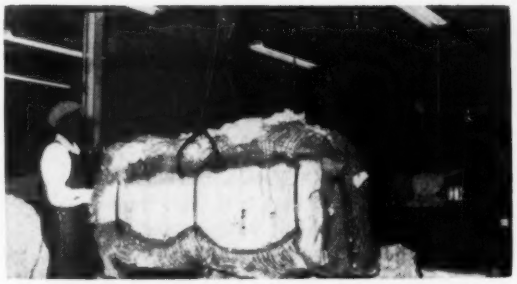
Opening and picking	30
Carding	30
Spinning	40
Warping and slashing	40
Weaving	60
Cloth room	60

An auxiliary gasoline generator can furnish emergency lighting if needed.

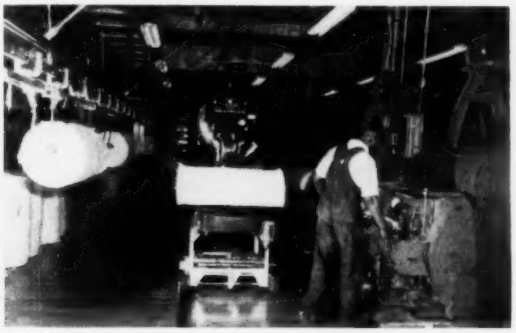
Paint

Since the light fixtures are suspended about 6 ft. from the ceiling, Greenwood engineers could see no advantage to painting the ceiling mill white. Aluminum paint is used on the ceiling throughout the manufacturing area. Mill white is used only on the clothroom ceiling.

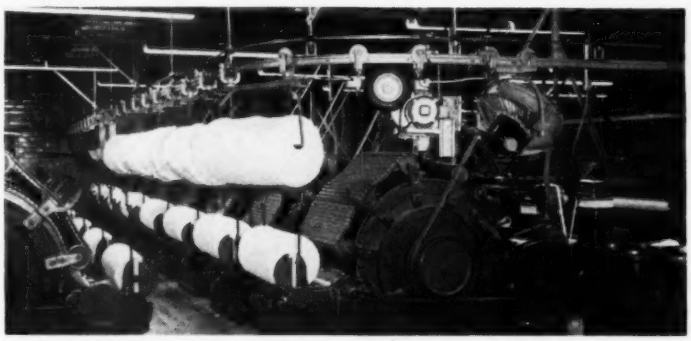
Handling and Cleaning



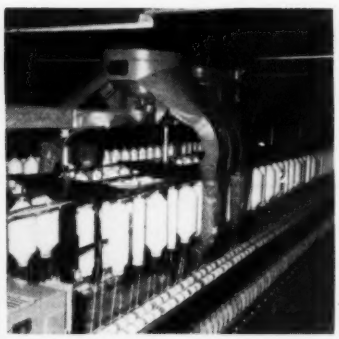
OPENING ROOM has overhead crane to minimize lifting. There are two opening lines, and each has six Saco-Lowell No. 5 feeders, a vertical opener, and two No. 12 lattice openers with screen sections. The five bales behind each feeder are stair-stepped to insure a uniform mix.



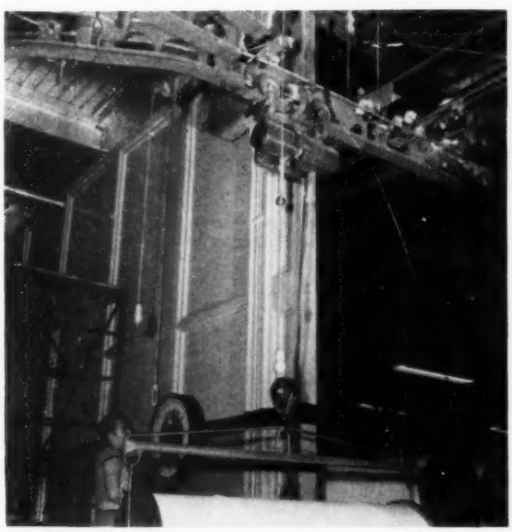
THE FIVE PICKERS have two-blade and Kirschner beaters and pneumatic lap controls. The scale doesn't register until weighing is completed; then a red or green light flashes on the scale and the weight is printed. Laps are hung directly on conveying train at left.



LAP TRAIN is led by a fan that cleans overhead in card room and picker room. There are three trains, and each one carries 10 laps and a container for lap pins. Each fan is aimed differently. Switches prevent train wrecks.

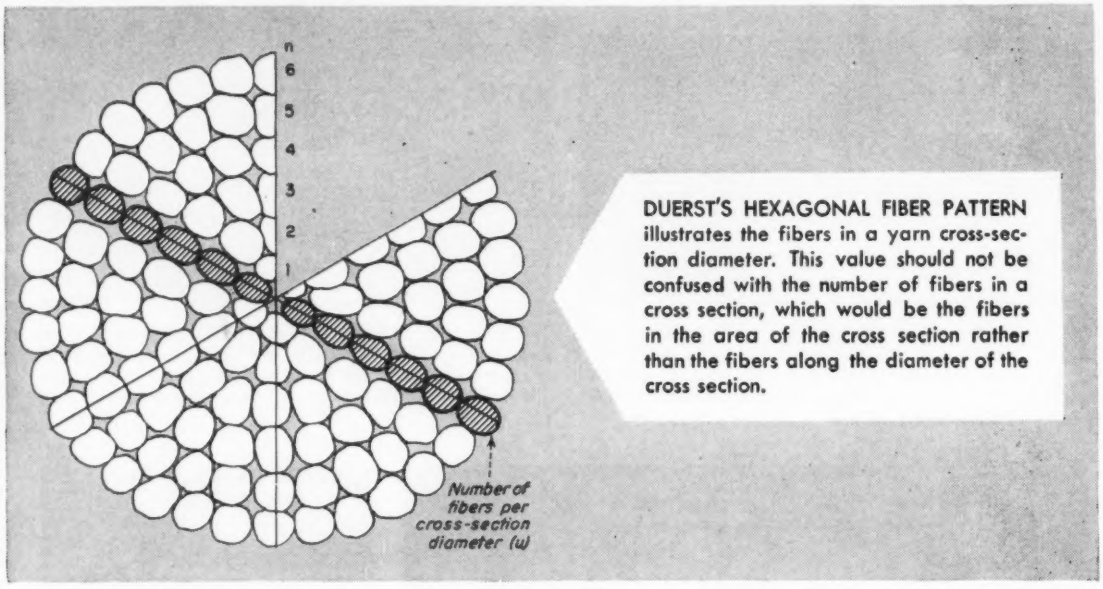


SPINNING FRAMES are equipped with umbrella creels, American MonoRail underframe cleaners, Parks-Cramer overhead cleaners, Rockwood drives, and Pneumafil.



OVERHEAD SCALES weigh section beams on the way to the slasher room. A P&H crane lifts the beam from the warper. The scale dial is at eye level at the point where the warper tender records the weight.

OVER 1,700 LOOMS are in this weave room, and most of them are 40-in. Draper E's. Some are 40- and 44-in. X-models. Only one construction is made—80 square. The 28-in. beams are handled by overhead conveyors and last seven weeks in the loom. ▲▲ looms were rebuilt in Greenwood's own loom shop.



DUERST'S HEXAGONAL FIBER PATTERN illustrates the fibers in a yarn cross-section diameter. This value should not be confused with the number of fibers in a cross section, which would be the fibers in the area of the cross section rather than the fibers along the diameter of the cross section.

How To Predict the Strength Of PLIED COTTON YARNS

► By the use of this formula, the strength of a plied cotton yarn, SZ or ZS twist, can be determined without the strength of the component yarns being known.

By JOHN DUERST, Coats & Clark, Inc.

A FORMULA FOR PREDICTING the strength of singles cotton yarn was presented in the January issue of TEXTILE WORLD, p. 108. The formula given here has been used successfully for predicting the strength of plied cotton yarns.

It is well known that yarn is held together by friction. This frictional force is lower, of course, in a soft-twist yarn than in a hard-twist yarn. Therefore, in predicting the strength of singles and plied yarns, a method based on the frictional force holding the yarns together is more promising than all-empirical methods.

Since the main job of generating fiber frictional contact points is done in the spinning process, we must know the data on a spun yarn to predict ply-yarn strength. However, it is not necessary to know the strength of the spun yarns.

Here's the Formula

A formula that will predict the strength of plied cotton yarns is:

Plied-yarn strength $= KPS_1ZYW$

where:

K is a conversion constant pertaining to measurements of length, volume, weight, and other factors.

P = Pressley Index

S_1 = number of working fibers

Z = twist impulse indicator

Y = twist-friction index

W = fiber surface ratio

What the Symbols Mean

The symbols used in the formula represent values obtained as follows:

K is obtained from actual mill performance. K = observed strength ÷ (PS_1ZYW). (K = 0.00038 for American-cotton plied yarns and 0.000405 for Egyptian-cotton plied yarns.)

P = Pressley Index

S_1, or number of working fibers = $\frac{3}{4}u_1^2 - u_1$

u_1 = number of fibers in the cross-section diameter of the thread

$$u_1 = \sqrt{1 + \frac{8{,}000}{N_1 \times \sqrt{F}}} - 1$$

F = micrograms per inch of fiber

N_1 = equivalent singles yarn number of the thread
(If the equivalent yarn number is not known, N_1 = yarn numbers ÷ number of plys.)

Y, or twist-friction index = $\sqrt{L_1 u t + u_1 t_1}$

where L_1 = effective staple length
(L = classer's length. Use for carded yarns.)
($L_1 = 1.05L$. Use for combed yarns.)

u = number of fibers in the cross-section diameter of the single yarn.

$$u = \sqrt{1 + \frac{8{,}000}{N \times \sqrt{F}}} - 1$$

(F = micrograms per inch of fiber)
(N = singles yarn number)

t = singles-yarn twist per inch

t_1 = ply-yarn twist per inch

Z, or twist impulse indicator = $1 - \left(\frac{Y^2 - 560}{560}\right)^2$

W, or fiber surface ratio = $\frac{1}{cm^2/mg \times \sqrt{Fs}}$

cm^2/mg = square centimeters per milligram of fiber

F = micrograms per inch of fiber

s = specific gravity of fiber (approximately 1.5)

By way of explanation:

1. In factor Z, the maximum twist constant is 560, or 2x280.

2. u and u_1 denote the number of fibers in the cross-section diameter (u of singles yarn, u_1 of the thread). This value should not be confused with the number of fibers in a cross section of yarn. [See the accompanying fiber-pattern sketch for an illustration of cross-section diameter.]

3. $cm^2/mg = \frac{0.01}{s} \times mm^2/mm^3$ as converted from Arealometer readings.

Strength Predicted With the Formula

In a series of tests, the formula was applied to several plied combed yarns spun from both American and Egyptian cottons. How accurate the predictions of plied-yarn strength were is shown by the following samples:

	Actual yarn number		Strength	
	Singles	Plied	Predicted	Observed
Two-ply, American	15.0	7.8	2.89	2.83
	18.6	9.6	2.26	2.30
	21.1	10.8	2.35	2.24
Three-ply, American	26.7	8.8	2.83	2.62
	34.8	11.5	2.16	2.35
	43.8	14.4	1.70	1.70
Two-ply, Egyptian	35.9	18.1	1.72	1.68
	43.2	21.6	1.42	1.41
	54.0	26.6	1.11	1.08
Three-ply, Egyptian	36.3	12.0	2.72	2.69
	41.9	14.0	2.29	2.32
	63.4	21.0	1.45	1.49

As can be seen, the observed and predicted plied-yarn strengths are rather close. Most of the threads tested were twisted from the same yarns mentioned in the January article.

There is one observation that has puzzled the author: namely, the different values of K for American-cotton threads (0.000380) and for Egyption (0.000405). Whether wet-twisting would affect the fibers differently or whether some other factor would be responsible has not been established . (It is to be noted that the constant for both American and Egyptian single yarns is 0.057, as given in the January article.)

Some pertinent facts regarding threads of two or more plies with thread-twist direction opposite to yarn-twist direction are:

1. Whether of ZS or SZ construction, the final thread requires fully balanced twists for the singles yarn as well as the plied strand in order to reach maximum strength. However, if the singles yarn has not been twisted to the maximum, the amount of twist below maximum may be added to the thread twist; or, vice versa, a lower thread twist may be matched with a higher-than-maximum yarn twist.

2. The ultimate state of equilibrium is attained when:
   a. Yarn is twisted to maximum twist
   b. Thread is twisted to maximum twist in a direction opposite to yarn twist.

A thread thus balanced has attained maximum strength.

3. A number of S turns inserted in a thread will remove the same number of Z turns originally inserted in the yarn.

4. Maximum yarn twist given in the January article was

$$t_{max} = \frac{280}{uL_1}.$$

The maximum thread twist for common ZS or SZ threads is

$$t_{1max} = \frac{280}{u_1 L_1}$$

where:

u = number of fibers in the yarn cross-section diameter

u_1 = number of fibers in the thread cross-section diameter

L_1 = effective staple length

Decision by Crisis

Every company has policies and procedures that its supervisors are supposed to follow. But some superintendents make the mistake of not letting the supervisors know what they are.

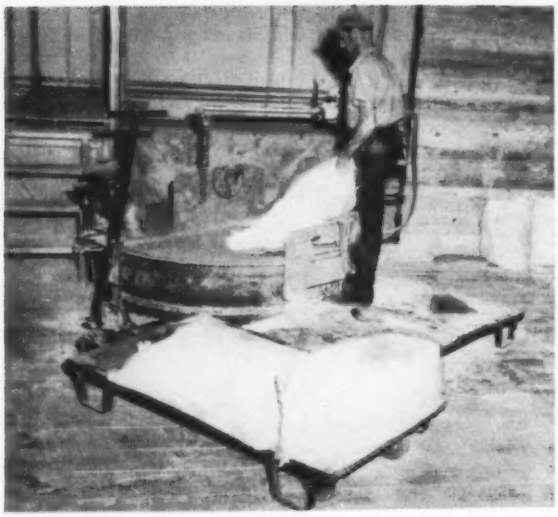
If policies aren't clearly written out, a line supervisor has to make up policy as he goes along. The result is decision by crisis. When a crisis comes up, a supervisor can take one of three courses: do nothing, pass the buck upwards, or improvise.

Whatever course a supervisor takes, he is making company policy.

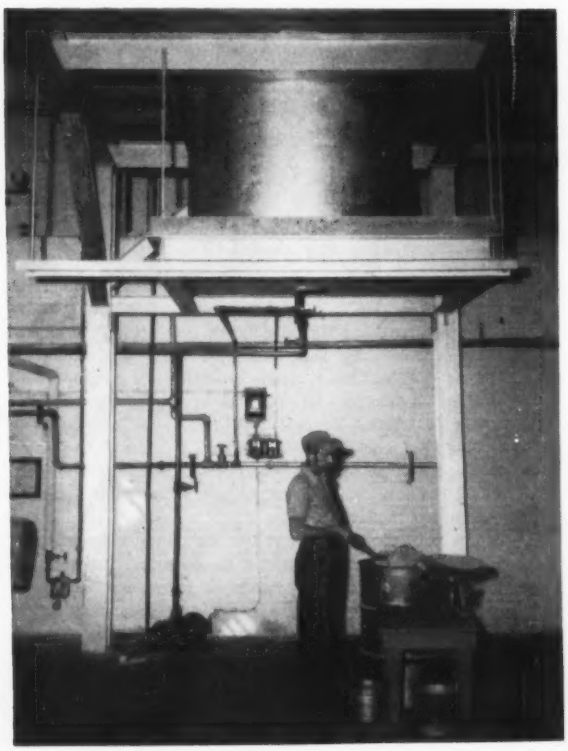
A supervisor has to get the job done; so he will develop procedures to handle employment, promotions, indoctrination, training, and merit increases. These procedures and practices will become company policy within the province of the particular supervisor.

Policies that are made this way are usually inconsistent or out of line with what the policies would be if they were not made by crisis.

Size Almost Makes Itself in This



STARCH-SLURRY TANK sticks up about 14 ins. out of the mezzanine floor. Starch is stored nearby when it is removed from rail cars at a trestle. The attendant is dumping in 140-lb. bags of pearl starch. A one-shot meter measures in 42 gals. of water for each bag.



SUSPENDED PLATFORM supports the bottom of the cold-slurry tank. The pump to circulate the slurry is on the boiler-room floor. Slurry is metered to the cooking kettles in 105-gal. batches followed by 105 gals. of water. The attendant is weighing 34 lbs. of size compound.

This new-type equipment for making slasher size begins with a cold-slurry mixing tank and continues with automatic operation to the slasher storage kettles. Results are—

Starch is handled only twice

Size is cooked and homogenized with automatic controls

Seven slashers are kept running with uniformly mixed size

A part-time man handles the whole system

By E. DALTON WHITE

A NEW-TYPE SIZE-PREPARATION SYSTEM is being used at Mill No. 4 of Pacolet Mfg. Co., Gainesville, Ga., The system features a cold-slurry mixing tank, cooking kettles with automatic size-measuring controls, homogenizers, and size storage kettles all connected so that size of a constant viscosity is supplied to seven slashers.

Cold Slurry Held in Storage

A mezzanine floor was constructed in the high-ceiling boiler room of the mill, and on a platform was extended to an adjoining railroad trestle. Pearl starch in 140-lb. bags is unloaded from rail cars and placed on pallets. Then the pallets are moved by shipping employees and stored on the mezzanine floor.

Starch was formerly stored near the slasher room on the second floor of the mill building. This area is now used for storing section beams.

A 1,000-gal. cold-slurry tank designed by A. E. Staley Mfg. Co. is built into the mezzanine floor. The tank

FOUR COOKING KETTLES receive the cold slurry when it's needed. The attendant uses the platform to drop the compound into the kettles. The slurry and compound are heated to 210° F. in 15 mins. and held at 210° for 20 mins. before mixture is homogenized.

SIZE-MAKING EQUIPMENT

extends about 14 ins. over the floor, and the bottom is supported by a suspended platform underneath the floor.

To mix the slurry, a 140-lb. bag of starch is dumped into the tank. Then a one-shot-type water meter measures 42 gals. of cold water into the tank. This mixing procedure is continued until the tank is full.

A ½-hp. electric pump, with a pumping capacity of 2 gals. per min., is located on the boiler-room floor and keeps the slurry continuously circulating.

Starch slurry flows by gravity through a Trident Autostop register that meters 105 gals. of slurry to any one of four cooking kettles on the boiler-room floor. After the slurry goes through the register, the register automatically measures 105 gals. of water that also goes to the same cooking kettle. In addition to supplying the proper amount of viscosity to the sizing mixture, the water cleans the slurry line to the cooking kettle.

The four copper-lined cooking kettles are converted storage kettles. Steam at 125-psi. boiler pressure is used to cook the size.

The mixture in the cooking kettle is agitated, and 34 lbs. of size compound is added during agitation. The mixture is brought to a temperature of 210° F. in 15 mins. This temperature is held for 20 mins., and the mixture is transferred to a homogenizer.

Size Is Held at 120 Centipoises

Two Gaulin homogenizers, each with a capacity of 400 gals. per hr., are used. Size is homogenized at 2,000-psi. pressure. Pacolet uses only one stage in homogenizing, and so far a constant supply of uniform size has been available.

The size is pumped 380 ft. from the homogenizers to the center kettle in a line of three 400-gal. storage kettles in the slasher room. The kettles are stainless steel. The size in the center kettle levels out into the two adjoining kettles.

The temperature of the size is 201 to 202° F. when it leaves the homogenizers, but it is raised to 205° F. by the time it reaches the slasher storage kettles 380 ft. away. To raise the temperature, the size is pumped through a 2½-in. brass pipe paralleling a ¾-in. live-steam pipe. The pipes are insulated together.

About 2,500 gals. of size is used each 8-hr. shift by the seven slashers, and the mill is on three-shift operation. One man handles the size preparation from the time the stored bags are opened until the homogenized size is pumped to the slasher room. In addition, he tends the gas-fired boilers located in the same room with the size-preparation machinery.

The starch-slurry tank is filled about the middle of each 8-hr. shift and again near the end of the shift. This schedule allows the employee plenty of time to tend size cooking and homogenization so that a continuous flow of size reaches the storage kettles. Small batches of slurry are made when slashers demand more size than usual.

The size viscosity is held to 120 centipoises and is checked periodically at the discharge end of the homogenizers and at the slasher-room storage kettles.

Signals Show Need for Size

Taylor instruments control the temperature in cooking and storage kettles. They also control the size-cooking cycle.

The one sizing formula is used for 13s and 24s yarns with good results.

A series of automatic signals indicates the amount of size in the storage kettles. A relay gauge on the middle storage kettle in the slasher room lights a red bulb on a switch-panel board in the boiler room when the size in the storage kettles reaches within 6 ins. of the top. The size-preparation attendant then stops the homogenizers. However, if he fails to stop the homogenizers, the relay stops them within 3 mins. after the bulb is lighted.

The relay also turns on a green light at the boiler-room switchboard when the size in the storage kettles lowers to the half-empty mark, and the attendant refills the storage kettles.

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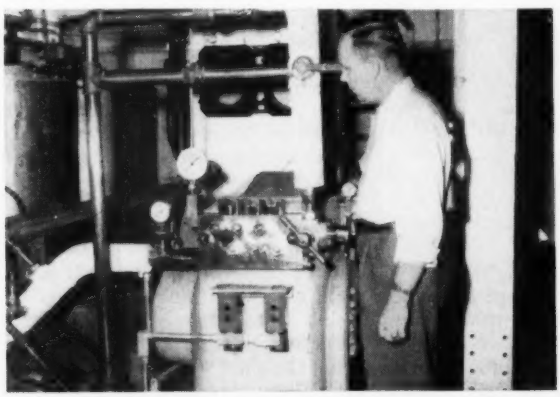
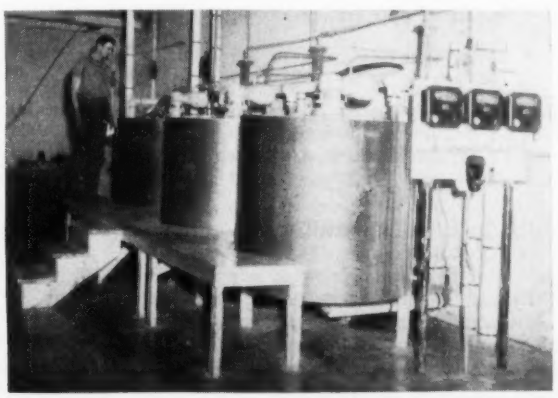
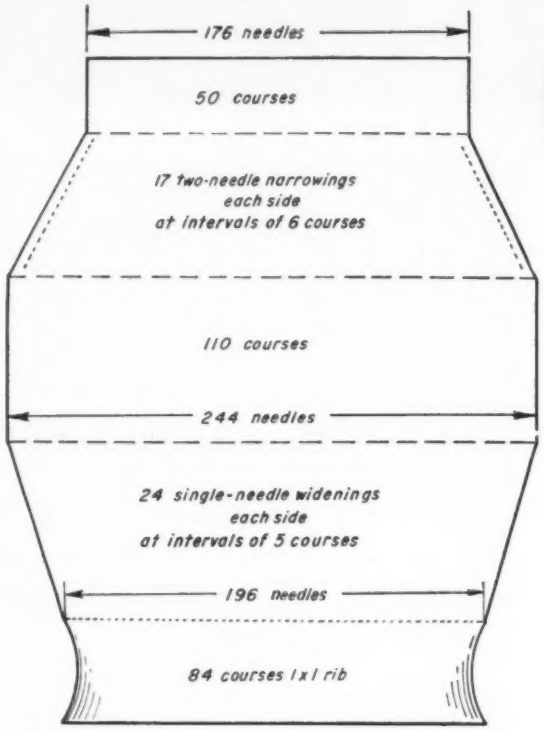


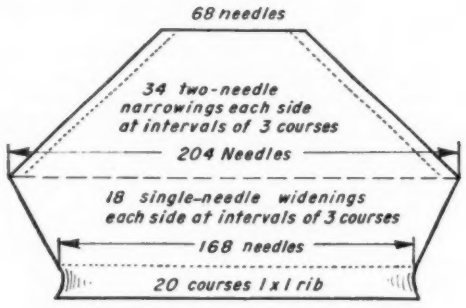
EACH HOMOGENIZER (there are two) has a capacity of 400 gals. of homogenized size per hour. Single-stage homogenization is used, and the pressure is 2,000 psi. Viscosity is 120 centipoises. B. V. White, Jr., preparation overseer, checks pressure.



THREE STORAGE KETTLES are located in the slasher room 380 ft. from the size-preparation room. Each kettle holds 400 gals. of size. Size is pumped to the center kettle, and it flows from this kettle to the other two to keep the size in all three at the same level.


176 needles
50 courses
17 two-needle narrowings each side at intervals of 6 courses
110 courses
244 needles
24 single-needle widenings each side at intervals of 5 courses
196 needles
84 courses 1x1 rib

BACKS AND FRONTS of women's sweaters can be knitted identically. A 21-gauge machine using 2/20s worsted yarn is set to knit 20 courses per inch.


68 needles
34 two-needle narrowings each side at intervals of 3 courses
204 Needles
18 single-needle widenings each side at intervals of 3 courses
168 needles
20 courses 1x1 rib

SLEEVES have a short rib made with 24 courses per inch. More stitches in the rib section give a more comfortable fit in the finished garment.

How Full-Fashioned SWEATER

Shaping knitted garments on a full-fashioned machine results in—

- **Less waste**
- **Improved appearance**
- **Better fit**

The principal parts of full-fashioned outerwear garments are—

- **Fronts, backs, cuffs, necks, pockets, and shoulder edging**

By J. B. LANCASHIRE, Leicester College of Technology

SEVERAL DIFFERENT MACHINES are required to make a complete range of women's full-fashioned sweater pieces. Backs and fronts are made on wide needle-bar machines; sleeves are generally made on narrower machines; and necks, cuffs, and edging are made on rib machines.

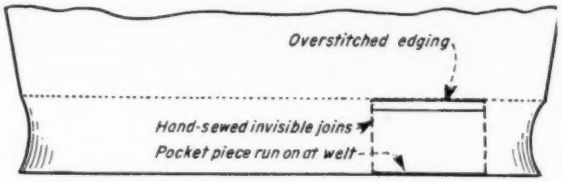
Waist ribs can be made with more needles than the waist part of the sweater body to get a comfortably fitting cuff. The bottom of the cuff is made firm and smooth with a French or roll welt. A slack course, to run on the full-fashioned-machine needles, is knitted a few courses before the separating thread.

The cuffs are separated by pulling out the cotton draw thread, and the slack course is run onto a point bar. The roving courses are unraveled, and the knitter transfers the loops from the point bar to the full-fashioned machine needles.

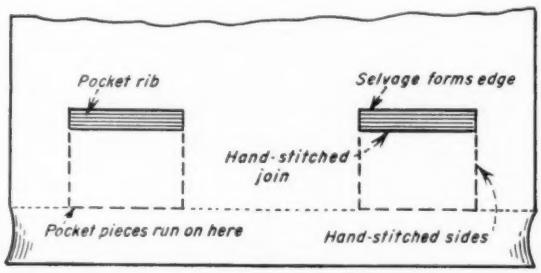
A waistband made in 1x1 rib with 24 courses per inch and knitted from 2/20s worsted yarn is suitable for transferring to 196 needles of a 21-gauge full-fashioned machine. A rib knitted 84 courses long will make a 3½-in. rib.

Widening can be commenced immediately after the rib transfer. A suitable shape is made on a 21-gauge machine by widening one needle on each side at intervals of five courses between each widening for 24 widenings. The chest part is knitted straight for 110 courses on 244 needles.

Narrowing for the armholes is done two needles at a time on each side. Narrowing 17 times at intervals of 6 courses will produce a suitably shaped



A SELF-FRONT POCKET on the rib border is run on at the welt end of the rib. The sides are hand stitched to make an invisible join.



PATCH POCKETS are made in the plain part of the garment. The pocket pieces are run on below the rib for patch pockets and above for self-front pockets.

PARTS Are Knitted

armhole. The body part is completed by knitting 50 courses on 176 wales.

Same Yarn Is Used Throughout

Backs and fronts are knitted identically. The stitch is set to knit 20 courses per inch with 13 wales per inch, and 2/20s worsted yarn is used throughout the body.

Sleeve ribs are very short, about 20 courses long, and are also made in 1x1 rib with 24 courses per inch. The sleeve rib is transferred to point bars and then to 168 needles of the full-fashioned frame. Widening is commenced immediately. A short sleeve is made with 18 single-needle widenings on each side at intervals of three courses.

At the end of the widenings, 34 two-needle narrowings are made at each side at three-course intervals to produce the shoulder. The 68 stitches remaining on the needles are then pressed off.

Three Ways To Make Pockets

The various types of pockets produced on full-fashioned machines can be classed as either patch pockets or self-front pockets. The self-front pockets can be placed in either the rib part or the plain body part of the garment.

The patch pocket has its front part sewed to the body at each side. The fabric of the body forms the back part of the pocket. The front part of the pocket is knitted as a separate selvaged piece on a plain Cottons-type machine. The piece is pressed off and placed on the needles of the machine again in the appropriate place with the face side upwards before the body is run on.

If the bottom of the pocket is to coincide with the top of the rib, the pocket piece is kept above the knockover bits; but otherwise, it is put under the knockover bits until it is required. A tightly knit piece of 1x1-rib fabric is attached by hand stitching to the upper end of the patch pocket. The wales of the pocket ribbing run perpendicular to the wales in the plain part of the pocket, and one selvage of the ribbing forms the open top edge.

Self-Front Pockets Require Much Work

Self-front pockets are made in the plain parts of the garment. The rib end is run on in the usual way, and the back pocket piece is run on after the rib is knitted or when a number of plain courses have been made.

The back pocket piece is run on face-side-up, and a piece of plain fabric the length of the back pocket is knitted. Roving courses are knitted and the fabric pressed off. This piece of fabric is placed on the needles again in the pocket position.

The back-piece loops are run on instead of the main-piece loops. Strips of ribbing are fastened to the unattached loops of the main piece. They extend the full width of each pocket and are sewed to the front of the garment by a stitch that is not visible on the face side.

Roving courses are knitted at both ends of the pocket pieces that are knitted separately.

A pocket especially suitable for women's garments is faced with rib fabric and has its bottom edge level with the welt. After the rib has been knitted, it is run on the plain machine at the welt end; and the back-pocket piece is knitted to the same length of the rib border. The roving courses are made and the pocket pressed off.

When the rib is placed on the plain machine to knit the body, the back pocket piece is run on, instead of the rib, across the pocket width. The upper end of the rib, where it is not run on the needles, is made neat with a strip of plain fabric sewed over the edge.

Edging Made in 1x1 Rib

The double thickness of 1x1 rib edging at the neck is often made with a roll welt across the center to provide a firmer edge along the neckline. The edging is attached to the garment by a single- or double-chain stitch.

A course of rib loops is run on the looper points before looping, with the rest of the rib fabric left above the points. Then the plain loops of the neck are run on, and finally a course of rib loops at the other end of the edging is run on to complete the neck.

The double thickness of 1x1 rib plain fabric, and looping is done after the roving courses are taken from under the points. Armholes of a sleeveless garment may be finished off this way.

Openers and feeders	Pickers	Cards
Machine No.	Machine No.	Machine No.
No. 7 Feeders	**Condensers**	Cylinder clothing
Feed aprons	Screen	Doffer clothing
Pin aprons	End strips	Flat Wire
Combing roll	Cut-off plate	Lickerin wire
Doffing roll	Leathers	Feed roll and bearings
Bearings	Gearing	Lickerin knives
Gears	Fan	Cylinder and lickerin screens
Feed table	**Distributor**	Gearing
Conveyor belt	Belt	Cylinder bearings
Bearings	Pulleys, gearing	Doffer bearings
Vertical openers	**No. 5 Feeders**	Lickerin bearings
Beater	Aprons	Doffer comb
Grid bars	Comb and doffer rolls	Flat comb and hackle
Top bearing	Bearings, gears	Flat chains
Step bearing	**Breaker section**	Comb boxes
Galley pulleys	Feed rolls	Band pulleys and studs
Lattice openers	Feed apron	Brushes
Beater	Gearing	Flat ends
Grid bars	Beater	Settings
Screens	Grid bars	Flat to cylinder
Fans	Cut-off plate	Doffer to cylinder
Feed rolls	Dust bars	Lickerin to cylinder
Bearings	Cages	Feed plate to lickerin
Screen sections	Fan	Front and back plates
Screens	**Finisher section**	Doffer comb
Fans	Feed rolls	Flat comb
Draw rolls	Gearing	Mote knives
Apron	Beater	**Inspect card web at start**
Drive	Grid bars	
	Cut-off plate	
	Dust bars	
	Cages	
	Fan	
	Evener	
	Knock-off	
	Friction	
	Calender rolls	
	Reserve box	

Good INSPECTION FORMS Help Card-Room Maintenance Men

Good inspection records are one of the keys to good maintenance of card-room machinery. The forms shown here are used by one mill to—

▶ Record inspection results by machine-part groups

▶ List faults and failures to guide maintenance work

By E. H. HELLIWELL
Contributing Editor, TEXTILE WORLD

IN A LARGE CARD ROOM well known for quality, systematic inspection is the most essential factor in maintaining machines for quality and economy. The ideal time for inspection, according to the experience of this card room, is every six months at the scouring period.

This mill has been able to avoid complicated inspection forms without sacrificing any of the benefits of a thorough inspection. The forms do not attempt to list each individual part; similar parts are grouped together. A comparatively small number of groups and subgroups give complete coverage of all parts of machines inspected.

On forms that have been filled out, a simple check mark indicates that the part is in good condition, and an X mark that it is not. Comments, giving the machine number and part group, are made on the back of the inspection form.

An instruction sheet, "What to Look For," has proved a great help. This sheet is a brief summary of the faults found in previous surveys.

CONTINUED ON PAGE 198

Drawing frames	Machine No.
Rolls	
Top	
Bottom	
Calender	
Bearings	
Steel roll	
Roll stands	
Top rolls	
Bottom shaft	
Coiler	
Gears	
Back and middle rolls	
Front roll	
Draft-crown	
Calender roll	
Coiler	
Table	
Spur-bevel	
Tension train	
Studs	
Middle rolls	
Draft	
Tension	
Calender roll	
Table drive	
Trumpets	
Gauge and setting	
Stop motion	
Spoons	
Knife bars	
Lever bars	
Spring	
Test for levelness and alignment	
Test can-table setting	
Check roll settings	

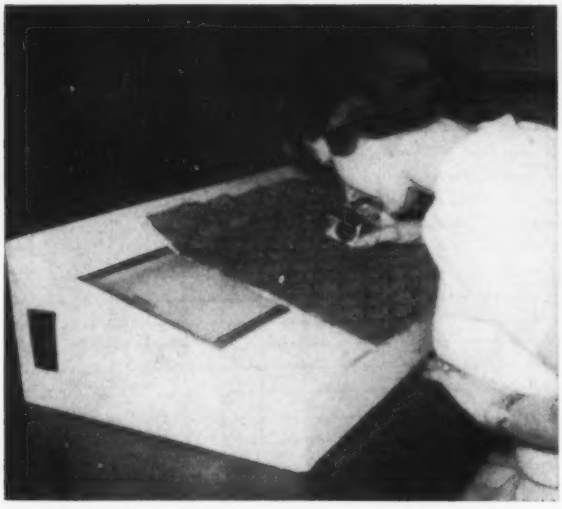
Roving frames Inspected by..... Date.....

Machine No.	1	2	3	4	5	6	7	8	9	10
Rolls										
Top										
Bottom										
Bearings										
Jack shaft										
Roll stands										
Long lifter shaft										
Spindle and bobbin shaft										
Top and bottom cone shaft										
Gears										
Bobbin and spindle										
Head end										
Draft train										
Twist train										
Lay train										
Tension train										
Gap gear										
Top and bottom cone										
Compound										
Twin										
Studs										
Draft gear										
Sheave pulleys										
Intermediate twist										
Builder										
Jaws and dog										
Screw										
Spring										
Spindle tops and steps										
Traverse motion										
Starting point of cone belt										
Rack and shipper										
Flyers-pressers										
Roll settings										
Levelness and alignment										

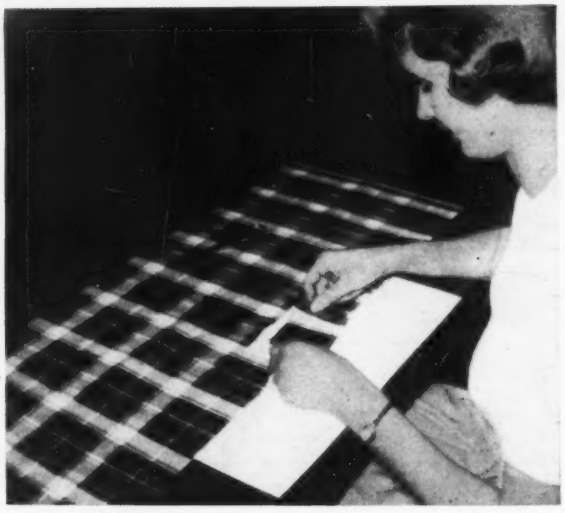
Card-Room Machinery Inspection

Part	What to look for
Aprons	Tension, slats, belting, links, canvas
Beaters	Blades dull, rough, out of balance; pins bent or missing; settings; chambers; safety locks
Grids	Bars broken, missing, rough; settings
Screens	Bent, broken, rough; seams; end strips; leathers
Fans	Blades broken, bent, loose, out of balance; leaks
Pulleys	Loose on shaft or keyway
Shafts	Worn, sprung
Studs	Worn, loose, sprung
Bearings	Worn, out of line; oil pipes free; lubrication
Rolls	Necks or bearings worn, sprung, grooved, eccentric; loose joints; flutes; lubrication; settings
Stands	Worn, out of line; lubrication
Clothing	Shedding, short, faced, jammed, loose; holes
Flyers	Rough, out of balance; pins; pressers; tubes; slots
Gears	Worn; settings; loose on shaft or keyway; broken teeth; choked

Part	What to look for
Other parts	
Comb boxes	Tight; rattle; lubrication
Flat chains	Loose, stretched, worn, uneven
Brushes	Worn short, matted; setting
Spindles	Loose or tight; slots; point worn
Steps	Loose, worn
Bolsters	Loose, worn
Traverse	Worn; length of stroke; dwell
Weight chains and sheaves	Too long; lubrication
Neb bars	Worn; setting
Trumpets	Gauge; setting
Clearers	Nap; clean; matted
Cone belts	Tension; starting point
Builders	Worn jaws; dog



HEAD-ON INSPECTIONS are made on the lighted desk by a checker. The inspection begins with a search for wrong draws, misreeds, and wild yarn. The lights make individual ends stand out.



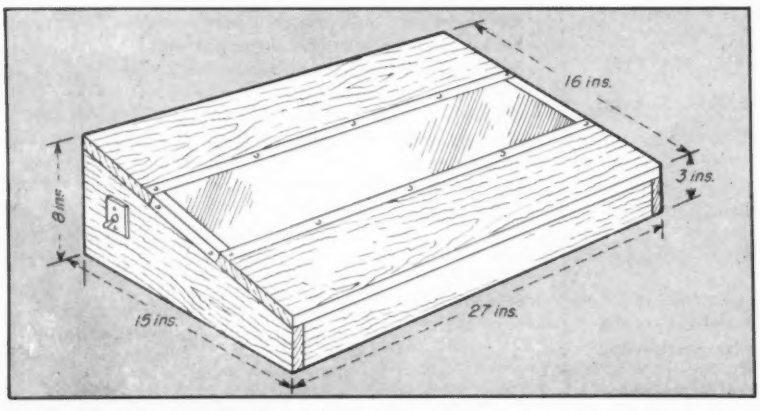
YARN-DYED FABRICS are checked by first verifying one repeat of the fabric by the construction sheet; then this section is cut from the cloth and used to check every other color repeat from selvage to selvage.

Short-Cut Methods Check NEW CLOTH PATTERNS

Looms with new warps get back in production quickly at Dan River Mills because employees in the designing department use short-cut methods to check head ends from the looms. The methods include—

- **A checklist to eliminate errors**
- **A formula for cloth contraction**
- **Counting picks in multiples**
- **Control of slack and tight selvages**

By **EDWARD WALLER,** Dan River Mills, Inc.



INSPECTION DESK is shopmade and has a frosted-glass panel over two fluorescent lamps. The desk sits on a regular desk and is moved out of the way when it isn't being used.

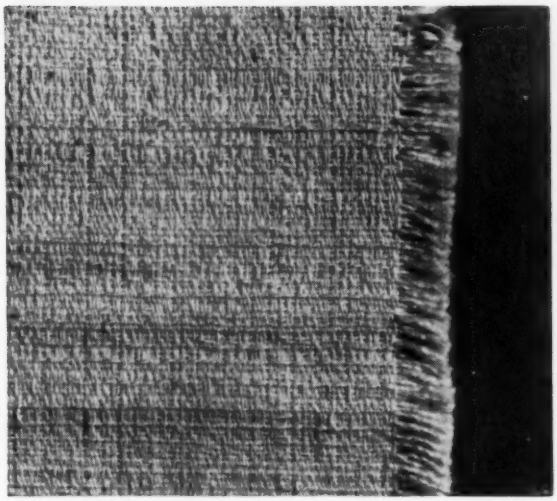
PLACING A NEW WARP in a loom raises a critical situation. The head end must be checked for accuracy, and the time allotted to the checking should be as short as possible because the loom is stopped until the weave-room overseer is assured that the weave is correct. At Dan River Mills, we have developed short-cut methods that assure accuracy.

Checklist Is a Big Help

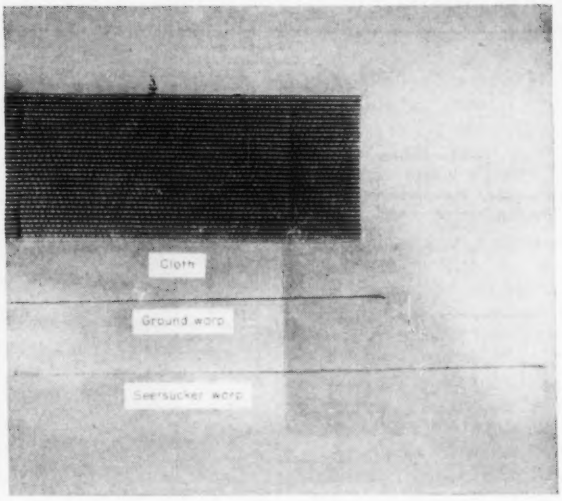
On plain weaves, inspection of head ends on new warps is limited to a few features such as pick count, misreeds, etc. But a more-thorough examination must be made on fabrics such as yarn-dyed stripes, plaids, checks, fancy twills, satins, dobby weaves, clip spots, and blends that are to be cross dyed in the piece.

The first step in accurately and quickly checking head ends is to make a checklist ticket that lists such points to be covered in examining the cloth as width, color pattern, selvage weave, ground weave, etc. When the checklist is followed closely, no important phase of inspection can be overlooked.

If a head end is correct in every detail, the designer or checker initials the checklist, attaches a full repeat of the woven pattern to it, and posts the



COMPLICATED PATTERNS are checked by pulling out enough yarns to leave a fringe ½ in. wide at one side. Then a pick needle is used to move one pick at a time into the fringe to check the weave.



YARN CONTRACTION on two-beam weaves is determined by pulling out warp ends from each beam and measuring the ends. In this 10-in. strip, low-beam ends measure 10.6 ins.; top beam 15.2 ins.

checklist in a record book. This precaution fixes the responsibility of correct patterns on the checker and also protects him if a loom gets out of adjustment later and makes a faulty pattern.

When a head end is weaving correctly, the checker sends a green ticket to the weave-room overseer to give him permission to run the loom. If a head end is woven incorrectly a red ticket showing the error is given to the weave-room overseer. The loom must then be corrected, and another head end must be woven and given to the checker.

Inspect Over Lighted Glass

When the head end of a new warp is sent to the checker from the weave room, he inspects the warp first for errors. Every end is examined for correct color, weave, yarn size, etc.

The warp is inspected on a special desk containing a panel of frosted glass with two fluorescent tubes mounted underneath the glass. When cloth is placed over the glass, individual ends are silhouetted so that they stand out under a pick glass.

The desk was made in our mill carpenter shop at a small cost, and it has paid for itself many times in faster, more-accurate work and reduced checker fatigue.

The inspection begins with a search for wrong draws, misreeds, and wild yarn. After this inspection is completed, the checker moves on to the job of checking the weave. Usually this phase of inspecting is the hardest part of the job. The difficulty of picking out the weave depends on the fineness of the yarns, the length of the drawing-in draft and pattern chain, the tightness of cloth construction, and other factors.

Weaves that are particularly hard to pick out are handled this way:

1. A full repeat of the pattern is cut.
2. Enough warp yarn is pulled out to leave a ½-in. fringe.
3. The first end to be checked is moved a short way into the fringe with a pick needle.
4. The warp interlacings with the filling are easily traced under the pick glass.

In checking the color layout of yarn-dyed fabrics, we verify the correctness of one repeat of the pattern against the construction sheet and cut this section from the cloth. Then we use the section to check every color repeat from selvage to selvage. The result is a fast, thorough, and accurate job. Any colors out of place stand out immediately when they are compared with the correct swatch.

Use a Contraction Formula

We always dye a full-width strip from the head end on blended synthetic fabrics that are to be cross dyed in the piece. Then we're sure that the yarns are in proper order.

When the correctness of the cloth depends on a specified amount of warp contraction during weaving, we check the head end to be sure the contraction is correct to predetermined specifications. Two common fabrics that have to be checked closely are seersucker and cord weaves.

For example, an ordinary cotton seersucker is woven with 6% take-up in the ground warp and 35% take-up in the seersucker (top beam) warp.

The actual amount of contraction in each yarn is quickly determined with this method:

1. Cut a section of cloth measuring exactly 10 ins. warpwise.
2. Pull several ends from a section of ground-beam yarns.
3. Give the yarns time for the crimp to work out, and measure the yarns. The yarns will then measure about 10.6 ins.
4. Use this formula to calculate the percentage of take-up:

$$\frac{\text{yarn length} - \text{cloth length}}{\text{yarn length}} = \text{percent take-up}$$

In this case, the take-up is:

$$\frac{10.6 - 10}{10.6} = 5.7\%$$

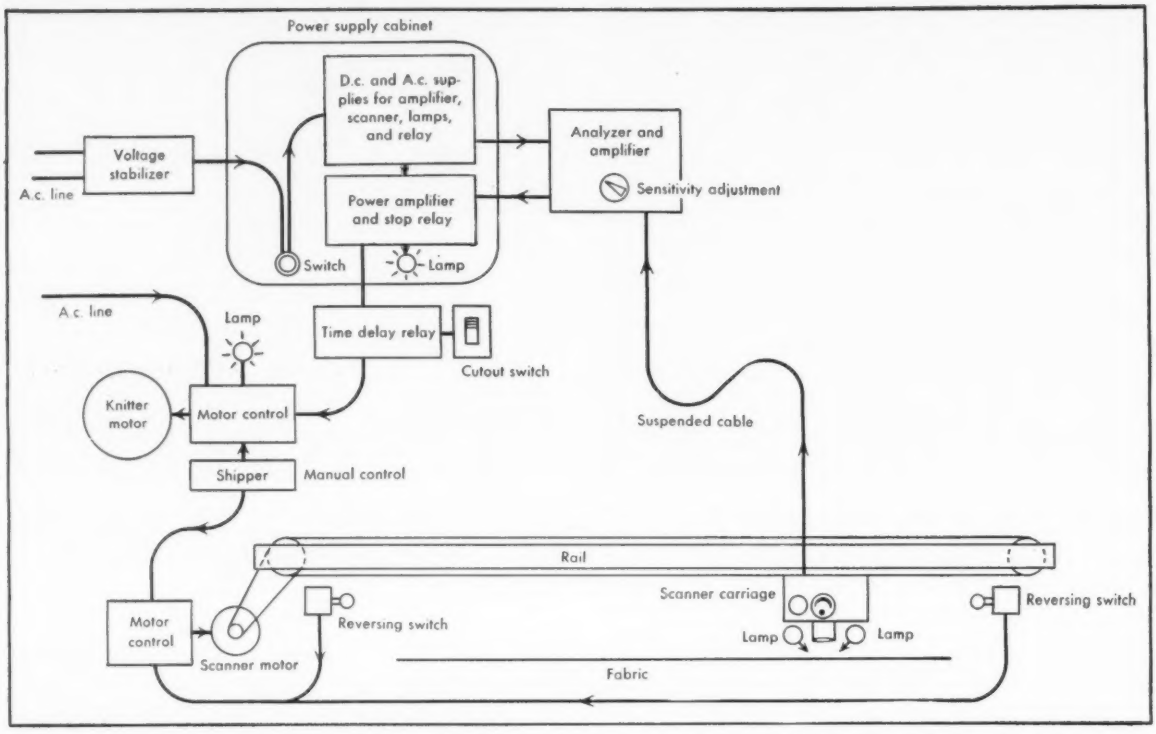
5. Use the same procedure to calculate the weaving contraction of the seersucker warp yarns.

Count Picks in Multiples

The first consideration given the head end in checking the filling is to find out if the loom is putting in the correct number of picks per inch. We save a lot of time on checked patterns by counting the picks in groups rather than as individual filling threads.

For instance, say the filling arrangement of a hound's-tooth check is four picks of colored filling and four picks of white. We line up the pick glass on the first white thread of a repeat. Then we count the groups of colored filling and multiply the number by

CONTINUED ON PAGE 182



WIRING DIAGRAM of the stop motion shows the electrical connections from the carriage to the amplifier and stop relay, and the drive to the scanner motor. The carriage speed is adjusted by changing the motor pulley and varies between 12 to 36 ins. per sec.

TRICOT STOP MOTION
Improves Quality and Workloads

▸ A photoelectric stop motion scans tricot fabric on the machine at approximately 2-in. intervals. Faults caused by broken threads and faulty needles cause the machine to stop.

▸ Operators now attend six 168-in. machines, but new developments may raise assignments to 8 to 12 machines.

By JAMES H. BLORE, Assistant Editor, TEXTILE WORLD

THE PROBLEM OF REDUCING COSTS by increasing machine assignments and reducing long faults in the fabric has been tackled successfully by Celanese Corp. of America with a photoelectric fabric-scanning stop motion. The electronic and optical parts of the equipment were designed and supplied by Photobell Co., but the mechanical parts were developed and built by Celanese technicians.

The stop motions, installed on 36 168-in. tricot machines in the Celanese plant at Bridgewater, Va., have been operating several years. One operator now attends six machines at Bridgewater, but it is expected that one operator will eventually look after 8 or 12 machines.

Faults Kept Below 3 Ins.

Nine inches of 8.8-in.-quality fabric is knitted each minute on a 500-course-per-minute machine. Because the scanning unit travels across the width of the 168-in. needle bar in about 7 secs., faults caused by ends out and faulty needles are kept below 3 ins.

A flashing signal light over each machine at Celanese calls specialized help. This signal light can be connected to the stop-motion circuit to bring the operator to correct a defect and restart the machine. This light is particularly useful where one operator attends machines on more than one row.

The fabric scanner runs back and forth about 1 in. from the needles along a rail fixed over the cloth and supported by two stanchions, one on each side of the machine. These stanchions are made from 2-in. pipe and are fixed to the floor to prevent vibration. No intermediate supports have been found necessary for the rail.

THE SCANNER CARRIAGE of the stop motion reverses its traverse when it touches the switch on the rail. A faulty needle or an end out stops the machine.

How the Scanner Works

The scanner carriage contains two lamps to illuminate the cloth, a phototube and optical system for viewing the cloth, and a preamplifier to strengthen the phototube currents before sending them to the electronic circuit.

The light reflected into the phototube indicates the uniformity of the fabric. A decrease in the amount of received light indicates a defect caused by an end out or a faulty needle. When the light decreases, a relay in the circuit stops the machine.

A nylon cord running over a pulley driven from a geared-head reversible capacitor-type starting motor drives the scanner carriage from side to side. Tension is maintained on the pulley by a spring. The carriage speed is determined by the pulley size and is usually 12 to 36 ins. per sec. The carriage speed is changed according to the quality of fabric being knitted to keep defects below 3 ins.

Carrier Is Reciprocated By Reversing Switches

Reversing switches fixed on the rail near the fabric selvages cause the motor to reverse as the carriage reaches the selvage and touches the switch.

Loosely knitted fabric has ripples that move diagonally from the fabric center to the selvages. If the ripples are large, they are detected by the scanning unit and the machine is stopped. A fabric-tensioning device has been used to remove the ripples, and very slack fabrics have been successfully knitted with their help.

The amplifier cabinets are supported over the knitting machine in an out-of-the-way position close to the alternating-current line. A 25-ft. flexible cable connects the scanner carriage to the amplifier. A trolley running along a rail above the machine prevents the cable from brushing against the warp threads.

A magnetic-type voltage stabilizer has been installed in the a.c. line to prevent a change in the reflected light into the phototubes that might occur when adjacent machines are started or stopped or when the incoming-line voltage fluctuates to any degree.

Direct Current Used To Eliminate Flicker

Ordinary 60-cycle current is unsuitable for energizing the lamps used in the scanner carriage. The 60-cycle current would cause the light produced by the lamps to flicker 120 times per second with an intensity change of about 3%, while a change in reflected light from the fabric caused by a defect is usually much smaller than 3%. Therefore, the 60-cycle current is converted into direct current and filtered to remove most of the flicker.

The scanner passes over about 300 to 1,000 threads each second; and since each thread reflects its quota of light into the phototube, the result is a high-frequency fluctuation in the light intensity received by the phototube. A filtering circuit connected with the phototube renders this high-frequency fluctuation insignificant.

Movements of the fabric caused by needle and sinker movements also cause variations in the phototube signal. The fabric changes position 500 times each minute when the machine is running at 500 courses per minute, and each change in fabric position causes a light-reflection change; but a suitably designed optical system has reduced these changes so that they are no longer important.

A control in the amplifier cabinet can be adjusted to make the scanner as sensitive as desired. When the scanner is set correctly for normal sensitivity, a piece of black thread laid on the cloth will stop the machine when the scanner carriage passes over it. This method is used to test the adjustment of sensitivity.

Cutout Switch Permits Start of New Warp

Except for this sensitivity adjustment, the stop motion requires no manual control. A cutout switch is provided, however, to permit the machine to operate without the stop motion when a new beam is started.

When the machine is restarted after a defect has been repaired, 30 secs. may elapse before the defect has moved away from the inspection path of the scanner. A time relay makes the stop motion inoperative for a selected time interval after each stop to permit the defect to clear. The machine can be restarted and run over the repaired fault without stopping.

The flexible cable to the carriage lasts for years but needs shortening at nine-month intervals to remove the deteriorated flexing end. Lamps are replaced after being used four months because they become blackened.

The amplifier tubes give long service, but certain tubes may need replacement at six-month intervals. These tubes are inexpensive radio-type tubes. The nylon cord that drives the scanner needs replacing at six-month intervals. Apart from these regular replacements, the stop motion requires about the same maintenance as other electronic devices.

Six Ideas for the SPINNING Overseer

▶ Here are six helps to improving your spinning-room operations: Matched loose front top rolls prevent uneven drafting—Correct-sized spindle tapes maintain the correct spindle speed—Samples of good lubricants provide a check on new shipments—The best bobbins grip the spindle at both the tip and the acorn—A record of bad roving will help to keep roving quality up—Good morale will counteract monotony of spinning-room jobs.

By N. H. POMFRET

SOMETIMES IT'S BETTER to check up on a few areas of your spinning operations instead of trying to improve everything at once. Here are suggestions that cover six particular troubles—mismatched loose rolls, over-sized spindle tapes, bad shipments of lubricants, off-balance bobbins, too much bad roving, and low employee morale.

Match the Size of Loose Front Top Rolls

If the two halves of loose front top rolls are matched for size, pressure is applied evenly along the whole length of the arbor. However, if you use different-size rolls, the pressure is applied at two points only because of the different diameters. This pressure changes the nip of the rolls and the effective distance between the front and second rolls. With a varying effective distance between the rolls, the drafting is irregular.

For example, with the right roll slightly larger than the left roll (Fig. 1), the arbor presses down at the left edge of each roll and the pressure on the edge of larger roll is greater than the pressure on the edge of the smaller roll. Since the smaller roll receives less pressure from the weighting, it is liable to have a surface speed different from that of the bottom roll.

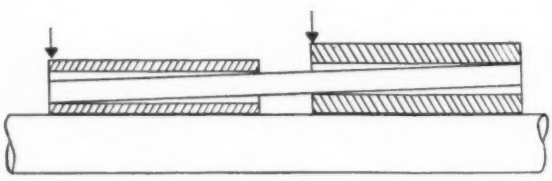


Fig. 1

IF LOOSE TOP FRONT ROLLS are mismatched, the pressure from the weights is concentrated at two points (arrows). The roll covering is compressed, and the effective nip and distance between the front and second rolls are changed. Uneven drafting results.

The high pressure on the larger roll compresses the roll cover, increases the arc of contact with the bottom roll, and changes the effective nip of the rolls; the nip is changed on the side of the smaller roll, too, but not as much.

Since the effective nip between the rolls changes across the length of the rolls, the effective distance between the front and second rolls varies considerably from the supposedly parallel line.

Spindle Tapes

To keep the spindles revolving at a uniform rate, check the thickness of the spindle tapes periodically. Thicker spindle tapes lose revolutions because they change the effective diameters of the cylinder and spindle whorl and are less flexible.

For instance, with a standard tape thickness of 1/25 in., a 1,000-rpm. cylinder speed, and a 1-in. spindle whorl:

$$\text{Spindle speed} = \frac{1{,}000\ (10 + 1/25)}{(1 + 1/25)} = 9{,}654 \text{ rpm.}$$

However, if the tape thickness is 1/20 in., the spindle speed would be:

$$\frac{1{,}000 \times (10 + 1/20)}{(1 + 1/20)} = 9{,}571 \text{ rpm.}$$

Lubricants

The spinning overseer is not expected to be a lubrication engineer, but it is a common-sense measure to keep samples of oils and greases that have proved suitable. These samples can be kept in test tubes and used like cotton standards; visual comparisons can be made with the samples when deliveries are received, and any obvious differences should be reported.

Selection and Care of Bobbins

Although the overseer does not usually have the last word in the selection of bobbins, he should keep top management informed about bobbin performance. He should pay particular attention to concentricity, dynamic balance, and fit on the spindle. Bobbins are too often chosen by visual inspection and a perfunctory check of spindle fit.

There is no substitute for light, concentric, dynamically balanced bobbins. The cost of good bobbins per pound of yarn is small, and the damage caused by bad bobbins is great.

The bobbin that does the least damage to the spindle is the lightweight paper tube that is sometimes used as a nonreturned shipping bobbin. The worst bobbins of all are heavy, nonconcentric, out-of-balance bobbins.

A spinning overseer would do well to test a number

of bobbins from each shipment of new bobbins with a bobbin tester. Another good idea is to test for dynamic balance. A homemade tester can be simply made with a standard mill spindle driven about 25% above the maximum machine speed. Bobbins that cause this spindle to visibly vibrate should be rejected.

A perfect bobbin should grip the spindle blade evenly at the spindle tip and acorn. However, such bobbins are hard to make. Most bobbins grip either the tip or the acorn with a clearance at the other end.

If only the acorn is gripped, off-balance bobbins give the spindle tip rapid and continuous hammer blows. The speed and intensity of the blows depend on the degree of unbalance and the spindle speed. With an unbalanced wooden bobbin, these blows begin to polish the spindle top after about 50 hrs. of running. After 1,000 hrs., the spindle will have a highly polished top. This wearing away of the spindle and bobbin aggravates the condition and has an adverse effect on the spindle bolster, power requirements, end-breakage rate, and relative position of the bobbin and ring.

It is better for the bobbin to grip the spindle near the tip with the clearance at the acorn (Fig. 2). Much less damage is done if the off-balance bobbins bang on the acorn, which is sturdier and much closer to the bolster. Although these bobbins are better, you still can't get away with using off-balance bobbins without any damage to your frames.

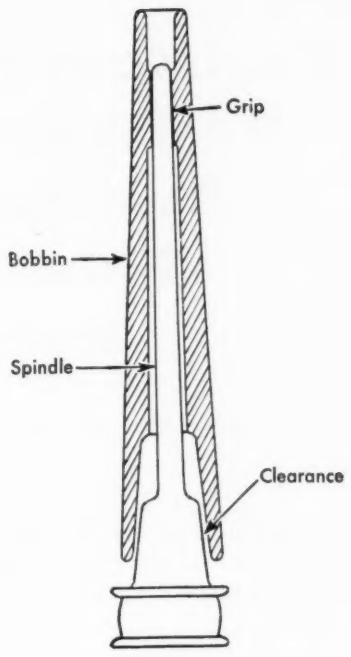


Fig. 2

BOBBINS that grip the spindle at the tip and vibrate against the acorn do less damage than bobbins that grip the acorn and vibrate against the tip. The best bobbins grip the spindle at the tip and the acorn so that vibration does not occur.

Select a Spinner To Keep A Record of Bad Roving

A system for returning bad roving to the card room should be set up because the spinning overseer has enough problems without worrying about below-standard roving.

Spinners will take bad bobbins of roving from the creel if they realize their raw material will be improved. A sure method to get bad roving removed from the creel is to pay a small bonus for bad bobbins taken out. A good idea is to have the fixer on each section collect bad bobbins and classify them into types and make a record of the bad bobbins turned in by each spinner. After a time, this record will indicate which spinners are most interested in this work.

The fixer should make a report of the bad roving on his section and turn it in each day to the second hand. This simple form can be adopted to facilitate record keeping:

Bad Roving

Date_____ Spinner_____

Singling	Doubling	Slubs	Oil stains	Tangled roving	Total
19	22	46	3	7	97

Tips on Human Relations

The ability to listen attentively and sympathetically is a prerequisite for spinning-room supervisors. In the spinning room, the repetitive work, the monotony, and the comparatively high temperature and humidity are not conducive to job satisfaction; and the supervisor should try to compensate for these conditions as much as possible.

Employees should be placed in congenial working groups as far as practicable. The supervisor is asking for trouble if he puts a person in a group he just can't get along with.

By promoting the best-qualified person when a job becomes available, morale will be improved by this evidence that the best man will be promoted.

The practice of laying off operators because there is temporarily not enough work should be avoided as much as possible. This practice encourages work restriction, especially among hourly paid operators such as cleaners, scourers, and oilers. It is far better and much cheaper, from a long-range point of view, to keep them working.

Another morale builder is to show all operators swatches of the finished cloth made from the yarn they spun. However, they should not be brought together and lectured like school children. Instead, each person should be shown the fabric as if the supervisor had just discovered it himself. If interest can be aroused in what happens to the yarn, operators will cooperate when it is necessary to point out faulty workmanship.

CHEMICAL FINISHING TECHNIQUES*

Resistance to Gas Fading
Resistance to Static
Resistance to Pilling
Flameproofing
Rotproofing

▶A fabric can be finished to decrease its natural tendency under certain conditions to fade, develop static electricity, pill, burn, or rot. In this article, the author discusses the nature and prevention of these harmful effects.

By **A. C. NUESSLE,** Rohm & Haas Co.

Anti-Gas Fade

The tendency of dyed acetate (and, in some cases, Dacron) to fade or discolor when exposed to combustion gases is an important problem. Piece goods stored in city warehouses often show irregular shading when the pieces are opened up for cutting, since only part of the fabric was exposed to the fumes. It has been established that nitrogen dioxide is the culprit. Present in very small concentration in combustion gases, nitrogen dioxide is readily diffused into acetate, which absorbs or dissolves it.

In the presence of moisture, nitrous acid (HNO_2) is formed and is probably the active intermediate:

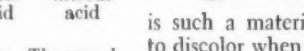
$$H_2O + 2NO_2 \longrightarrow HNO_3 + HNO_2$$

water — nitrogen dioxide — nitric acid — nitrous acid

Nitrous acid has the property of reacting with anthraquinone dyes and altering their structure and changing their color. Blue dyestuffs, among the most susceptible to fading, generally become pink under these conditions.

However, practically any basic material will neutralize the acid and prevent it from acting on the dyestuff. Materials such as melamine, ethanolamine, and the like are frequently used as temporary gas-fade inhibitors. However, in addition to having poor wash fastness, such substances are soon saturated with other acidic components of combustion gases. Although these acids (sulfurous, sulfuric, and nitric) do not affect the dye, they saturate the inhibitors and allow the nitrous acid to attack the dyestuff.

A better approach is to treat the acetate with a material that reacts only with the nitrous acid so that this material, and not the dyestuff, is attacked. Diphenyl ethylene diamine



is such a material; however, it tends to discolor when nitrosated, a property almost as bad as the fading of the dyestuff.

Although many other materials have been proposed, a problem exists in getting them to penetrate the fiber for a reasonable degree of washfastness. One manufacturer recently marketed an acetate fiber containing an inhibitor, which was probably added to the dope prior to spinning. Here, too, an adverse side effect is reported: the fiber tends to stain with direct (cotton) dyes that it should resist.

Another angle to solving this problem—alteration of the dye molecule so that it is not susceptible to nitrosation—has been attempted with considerable success. Thus far, however, only a limited selection of shades is available.

Antistatic

Static electricity results when two different substances are brought into contact and then separated. Rubbing is not necessary, although it is one of the best ways of bringing surfaces into contact.

While all fibers are subject to generation of an electrical charge, in the natural fibers, which attract water, the charge tends to dissipate so rapidly that only in very high-speed operations does it become objectionable. On the other hand, the hydrophobic fibers dissipate the electricity at so slow a rate that even at low processing speeds the

* *Final article in a series of four. The preceding three installments appeared in the March, April, and May issues of TEXTILE WORLD.*

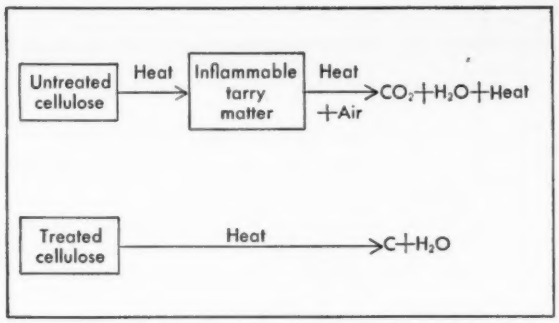


Fig. 1. How catalytic action of certain flame retardants causes cellulose decomposition to carbon and water without the formation of flammable tars.

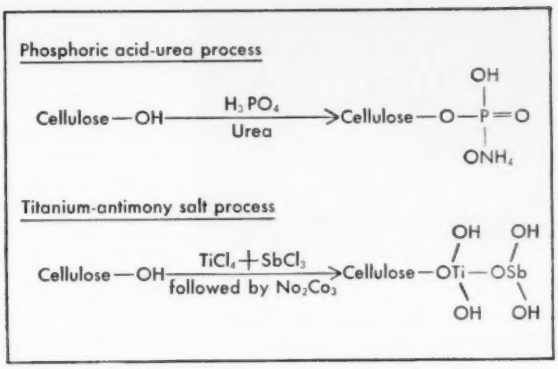


Fig. 2. Two flame retardants that combine chemically with the fiber.

charge builds up sufficiently to create sparks. In fabrics, this tendency of these fibers to generate static results in undesirable attraction between two articles of wearing apparel and the tendency of the fabric to pick up lint, dust, dirt, and so on.

The magnitude and the sign of the charge depend primarily on the nature of the surfaces, and many electrostatic lists have been published. One previously unpublished list is:

+Nylon
Glass
Plexiglas
Wool
Human skin
Cotton
Rayon
Steel
Acetate
Orlon
Saran
—Polyethylene

When two materials are rubbed together, the one higher in the series takes on a positive charge, while the other becomes negative. Although very little is known about the way the charge builds up, it has been found possible to minimize the build-up by increasing the conductance of the fabric so that the electricity is conducted into the surrounding air.

Two types of chemicals that have been found very efficient for this use are: (1) strongly ionized materials such as cationic softeners, especially quaternaries; and (2) hygroscopic agents, particularly ethylene oxide condensates. The latter, however, function by attracting water and are not effective at very low humidities.

Strongly ionized materials and hygroscopic materials tend to be water soluble; and because the antistatic material must go on the surface of the fiber to be effective, these materials are usually not washfast. It is theoretically possible to anchor such a substance onto hydrophobic fibers, but thus far no completely durable antistatic agent has appeared on the market.

Pilling

Pilling is another problem that is still not completely solved. It is common to fabrics made of spun yarns in general and of the newer synthetic fibers in particular. Pilling results from fibers that have worked loose during wearing or laundering balling up on the surface of the fabric.

It might be expected that the smoother fibers, which slip out most readily, should pill most; and it is true that the synthetics such as nylon, Orlon, and Dacron, which show a marked tendency to pill, are smooth.

However, some authorities state that fibers are pulled loose from all spun fabrics, including those made of rough, scaly fibers such as wool, and that the reason wool (and some of the other fibers) rarely shows pilling is that the loose fibers wear away before they can tangle sufficiently to form pills. Thus, pilling would be most evident in fibers having good abrasion resistance.

There is also scattered evidence that the ability of the fiber to elongate and recover is an important factor, since this action allows the fibers to work loose during wearing and laundering.

It has also been suggested that the tendency to pill is related to static-electricity development and that perhaps the repulsion of fibers is a factor. However, this cause scarcely seems possible, since heavy pilling often occurs during laundering when static charges are nil.

At present, it appears that pilling is exhibited by fabrics containing smooth, abrasion-resistant fibers having good elongation-recovery properties. No doubt yarn and fabric construction, too, plays an important part.

One way to minimize pilling is to lock the fibers in place. Consequently, a softener would only intensify the problem, but a binding agent (i.e., a surface polymer) would be helpful. Three binding agents that have been tried, with some success, are:

1. Stiff polymer (thermoplastic or thermosetting)
2. Rubbery polymer (thermoplastic)
3. Discontinuous polymer (special type of emulsion polymer)

The fabric hand is more modified by treatment with Type 1 than with Types 2 or 3. However, no treatment has proved entirely successful, and it is not likely that a single solution will be found that will be applicable to all fibers and fabrics.

Flameproofing

Cellulosic Fibers

Most research on flameproof finishes has been devoted to cotton and rayon, which burn rapidly. Cellulose, on ignition, decomposes into tarry materials that combine readily with oxygen to yield water and carbon dioxide; considerable heat is liberated, which serves to accelerate the reaction.

For many years it has been known that most phosphates, borates, and ammonium salts retard flaming but

CONTINUED ON PAGE 190

Questions AND Answers

Winding Tension on Yarn Limits Spindle Speed

Technical Editor:

How far can we go in raising our spinning-frame spindle speed? We have been conservative on spindle speeds and have never exceeded 8,800 rpm. on medium yarn numbers. What factors are recognized as limiting spindle speeds? (9783)

The tension on the yarn in winding on the bobbin is one of the critical factors in limiting spindle speed. This tension is at its maximum in winding on the bare bobbin. Decreasing the bobbin diameter, increasing the spindle speed, using a larger ring, and running a heavier traveler increase this tension.

The ability of the yarn to withstand this tension without undue stretch or breakage depends on the character of the stock and the amount of twist inserted. A soft-twist knitting yarn with a twist multiplier 3.25 would not stand the same tension as a harder-twisted weaving yarn with a 4.75 TM.

Because of traveler wear, a speed of about 5,000 ft. per min. is considered a suitable speed for the traveler, although many modern spinning frames exceed this speed. The selection of the right traveler for the yarn being made is very important.

Other contributing factors to speed limitation are spindle vibration, raising of bobbin on spindle, difficulty of lubricating spindles at higher speeds, fly accumulations, and the difficulty of the drafting units to operate efficiently at higher speeds. End-breakage and skein-strength tests will aid in determining the limits of speed for efficient operation. Increased end breakage or weakened yarn will indicate when practical speed limits have been exceeded.

Weave Twills Face Side Up

Technical Editor:

We require a sharp twill effect in our gabardines. We are weaving 2-up 1-down twill, face down. What is the correct height of the whiproll? (9784)

We think you will get a consistently better grade of twill if you weave the cloth face up. One reason is that the face of the cloth can be closely inspected as it is woven.

To get a sharp twill line on face-up twills, position the cranks of the crankshaft of the loom at the extreme back position. At this position, the harness shed will be wide open. Remove the handrail from the lay swords.

Tie one end of a piece of jacquard twine to the front of the breastbeam, run the twine over the breastbeam, through the dents of the reed near the selvages, and over the whiproll. Tie a small weight to the twine below the whiproll to hold the line taut.

Then raise both ends of the whiproll—keep it perfectly level from end to end—until the twine divides the open warp shed into two equal parts. Then raise the whiproll until the twine is about ¼ in. over the center line. Tighten the whiproll in that position.

This setting will cause the bottom warp shed to be tight and the top slack. The slack ends will fill in the face of the cloth and make it smooth.

The ¼-in. setting can be varied more or less to the opening of the warp shed, which depends on the height shuttle you are using. If you get the top shed too slack, you will have overshots in the cloth.

If you still prefer to run your twills face down, you will need to set your whiproll ¼ in. below the center line of the shed.

An 8-Loom Woolen Mill Needs About 6,000 Sq. Ft.

Technical Editor:

How much floor space will I need for an eight-loom mill weaving woolens? (9791)

Arrange your looms so that the weaver or weavers have easy access to the front and back of the looms. A space of 4 ft. between each loom at the ends allows the weaver to walk safely between the looms while they are running. A 4-ft. alley will give the weaver room to take out large cuts of cloth without interfering with the other looms.

Approximately 18x12 ft. is required for 92-in. woolen looms. Storage space for harnesses, reeds, warp beams, and warp and filling yarn must also be provided.

Weaving takes about 2,000 sq. ft,. and other departments such as warp preparation, winding, and finishing take about 4,000 sq. ft., for a total of about 6,000 sq. ft.

Larger-Mesh Tricot Net Can be Made in Three Ways

Technical Editor:

How can I make the mesh in my tricot nets larger? I am using a 1-0, 1-2, 1-0, 2-3, 2-1, 2-3, wheel on the front bar and a 2-3, 2-1, 2-3, 1-0, 1-2, 1-0, wheel on the back bar. (9762)

The usual method is to increase the runner lengths equally on both bars and dress out in finishing. It is possible, however, to make larger holes by increasing the number of 1-0, 1-2, and 2-1, 2-3, laps between the 3,1 and 0,2 laps. Wheels to give this effect are:

Front wheel 1-0, 1-2, 1-0, 1-2, 1-0, 2-3, 2-1, 2-3, 2-1, 2-3,

Back wheel 2-3, 2-1, 2-3, 2-1, 2-3, 1-0, 1-2, 1-0, 1-2, 1-0,

Another method is to thread up both bars 3 out, 1 in, and use these pattern wheels:

Front wheel 4-5, 3-2, 4-5, 3-2, 4-5, 3-2, 1-0, 2-3, 1-0, 2-3, 1-0, 2-3,

Back wheel 1-0, 2-3, 1-0, 2-3, 1-0, 2-3, 4-5, 3-2, 4-5, 3-2, 4-5, 3-2,

Use this gaiting: Front bar 1 . . .
Back bar . 1 . .

If you use a 28-gauge machine, you will get a 14-gauge effect, which will give you larger openings in the mesh.

Contact Depth From Fancy Chalk Mark Given in Table

Technical Editor:

What is the theory behind the chalking method of setting the fancy to the cylinders on a woolen card? (9603)

The chalking method is used to find out if the contact points of the fancy are even or if some points of the fancy are high or low. The evenness of the contact depth is highly important for a fancy because the fancy has to raise the material from the cylinder, and if the fancy is not penetrating the cylinder evenly, it takes out an uneven amount of material and causes uneven roving and yarn.

The chalk marks must be applied evenly on the cylinder and the density of the chalk has to be even. The fancy has to be ground or strickled, depending upon the unevenness of the points of the fancy clothing. More attention has to be given to a fancy covered with sheet-clothing because there is always a space between the sheets. If steady supervision does not take place here,

the unevenness of contact depth can cause trouble.

Also, attention must be given to whether bands of material are sticking to the fancy. If so, the fancy is not working properly.

Steel gauges are the precision instruments of the boss carder, but they must be supplemented by steady observation to see if one strip of the cylinder is filling up faster than the other. If so, this condition gives the carder notice to check the depth contact of the fancy to the cylinder.

When blends are dirty or greasy, the machine gums up even if the setting of the card is checked by precision instruments. The only help is to strip the card more often.

Lowell Textile Institute has worked out the following contact depths for chalk-strip marks:

Fancy-Settings Table
(For Davis & Furber Cards)

Chalk-strip mark	Fancy-to-card contact depth
	Short fibers
2 3/8 (ins.)	0.1247 (in.)
2 1/4	0.1118
2 1/8	0.0997
2	0.0883
1 7/8	0.0776
1 3/4	0.0675
1 5/8	0.0582
	Medium fibers (50s to 60s)
1 1/2	0.0496
1 3/8	0.0416
1 1/4	0.0343
1 1/8	0.0278
1	0.0219
	Long, coarse fibers (36s to 48s)
7/8	0.0168
3/4	0.0122
5/8	0.0084
1/2	0.0053

Cotton-Fiber-Fineness Control Can Be Practical

Technical Editor:

How far is it practical and profitable for a mill to go in appraising and controlling cotton-fiber fineness in blends? (9790)

Cotton-fiber fineness is more important from a yarn-strength standpoint on fine yarns than on medium or coarse yarns. Fine-fibered cotton has a greater tendency to nep during processing, and card production per hour is generally reduced to prevent increased neps.

An experienced classer, with a little practice on standard specimens of designated Micronaire fineness, can closely approximate samples as fine, average, or coarse-fibered cotton. These approximate classifications, in Micronaire readings, are: fine, below 4.0; average, 4.0 to 5.0; coarse, above 5.0. This classification and selection has proved close enough, in some cases, for practical mill operation.

To take full advantage of fiber-fineness control, a yarn-number range should be established for three or more Micronaire values. For example: for 40s to 50s, below 4.0; 20s to 40s, 4.0 to 5.0; below 20s, above 5.0. Colored tags on bales in storage quickly identify fineness values when bales are selected for blending.

Micronaire analyses of many random-selected bales show that a large percentage of the bales could be classed as normal or average fineness varying between 4.0 to 5.0 Micronaire. Cotton specimens taken from different parts of the same bale will often show great differences in fiber fineness. Regions of growth or selected varieties are no guarantees of fiber-fineness uniformity. Cotton stored for long periods in warm, dry places will often increase in fiber diameter. There is only partial recovery to normal fineness when exposed to standard humidity and temperature. Cotton grown in a locality with an abnormally dry growing season is likely to be coarser than the same variety grown in the same region during a normal growing season.

Handle Heavier Workers With Mechanical Trolley

Technical Editor:

What is the best way to handle the heavier workers on an 84-in. card? (9785)

The workers on the larger card are heavier in proportion to the size of the card, but they can be lifted by hand. However, in the interests of good materials handling some type of mechanical trolley is recommended. With a mechanical system, you can keep a spare cylinder and doffer wound; then, when the working elements need rewinding, the wound cylinder or doffer can be moved in to keep the card running.

Tips for Running 100% Orlon Garnetts

Technical Editor:

We are going to run some 100% Orlon garnetts. Is an emulsion used? If so, what type, and how much? (9788)

Use 1½ to 2% antistatic solution according to the weight of goods. Make the solution for six parts water to one part Scotch Nylon.

When the material comes from the garnett, find out the moisture content and add the regular emulsion used in your plant. The stock should not have more than 10% moisture to get a smooth carding and spinning job.

Don't forget that the 100% Orlon garnett should be the correct staple length to give you the correct yarn sizes.

Dry-Cleaning Fluid Will Remove Wax From Felt

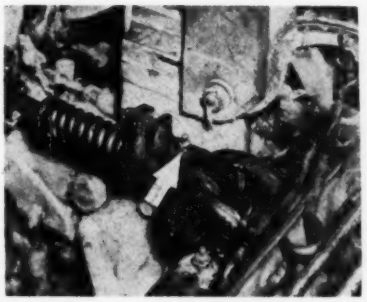
Technical Editor:

We have a lot of felt that has been waxed to make washers. How can we remove this wax from the felt and obtain the original fibers? (9698)

Clean the felt with a good dry-cleaning solvent such as Stoddard, carbon tetrachloride, or perchlorethylene solvent. Any of these should be all right.

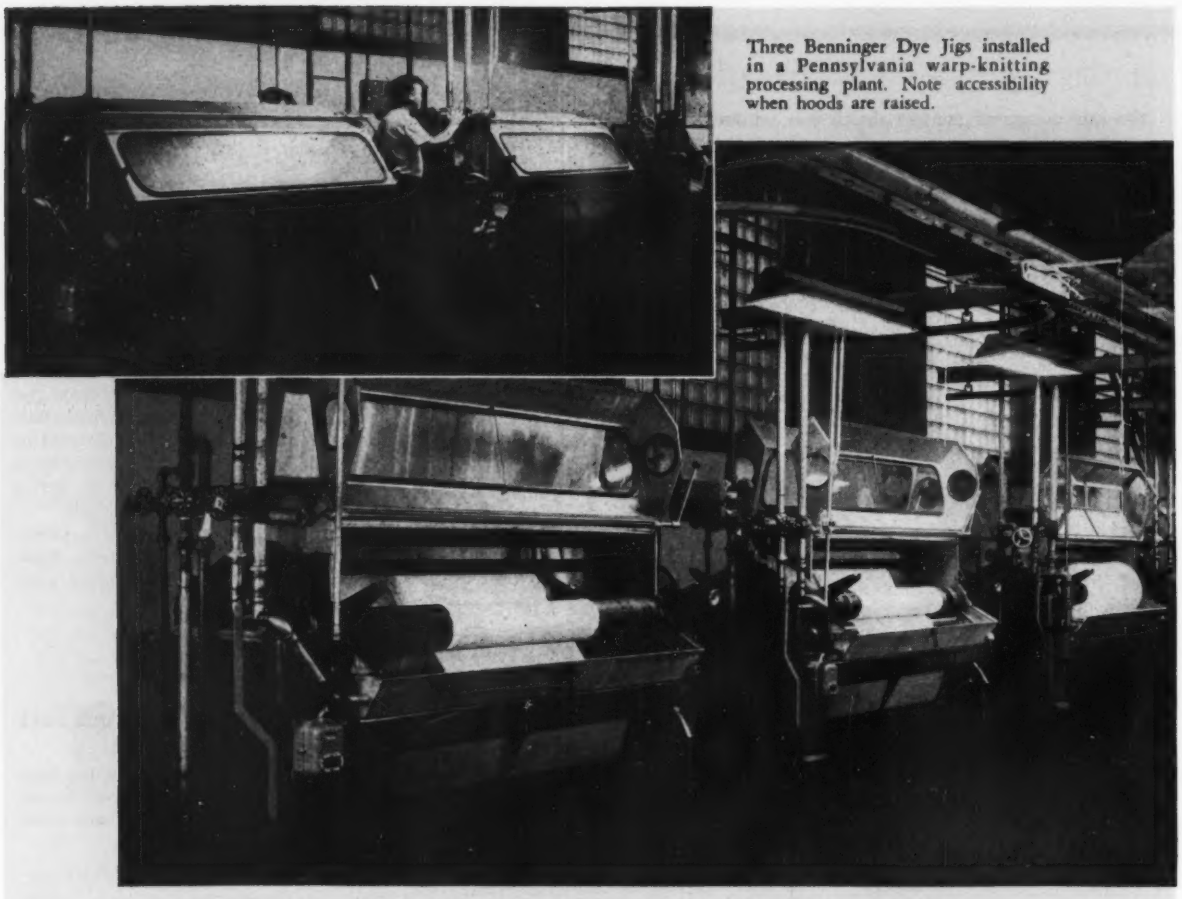
A Derby dry-cleaning machine would be the most suitable type of equipment to handle such goods.

MINUTE MYSTERY



Here's the culprit.

(See Minute Mystery, page 114)



Three Benninger Dye Jigs installed in a Pennsylvania warp-knitting processing plant. Note accessibility when hoods are raised.

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Pointers FOR SUPERVISORS

How To Handle Complaints

► The right to gripe is a well-established tradition that the worker carries along with him to his job. Whether a complaint is serious or trifling, a good supervisor learns to listen carefully and take action promptly

By **M. A. CROSS,** Director of Industrial Relations, Dan River Mills, Inc.

EVERY SUPERVISOR is going to get a certain number of complaints; that fact, of itself, is not a source of concern. It can, however, be a source of very definite concern if complaints are not answered properly and promptly. Complaints ignored can damage your employee relations.

Since the handling of complaints is a fundamental part of your job as a supervisor, here are some suggestions that may help you:

1. Listen to what the employee has to say.

When the average employee musters up the courage to make a complaint, something is bothering him. Little or big, it is important to *him*. He wants to be heard. If the supervisor will hear him out and give him a chance to get it off his chest, that alone has a healthy effect. If, on the other hand, the supervisor is impatient, obviously fidgety, and anxious to be about other business, the employee gets a let-down feeling and begins to nurse a belief that the supervisor is not concerned with his problem.

Another reason for actually listening is this: Your job as supervisor is to answer the complaint. You can hardly answer it satisfactorily unless you have taken the time to find out what really is bothering the employee. Quite often, as you know, the surface reason is not the whole story; you have to probe a little to get at the basic difficulty.

So start off by doing a good listening job. It's a much-neglected art.

2. Don't jump to conclusions.

In many instances, a supervisor on the receiving end of a complaint feels on the defensive. His first inclination is to justify his action. So he's tempted to jump to an immediate conclusion and assert that the employee is wrong or is misinformed or simply misunderstands.

What are the dangers in this course? At least two. First, let's recognize that all of us have some degree of human fallibility. We can and do make mistakes. If we take an immediate stand that our wrong action was right, it becomes more difficult, as a face-saving proposition, to undo the original error.

Second, and more important, jumping to a conclusion will probably leave the employee with the unsatisfactory feeling that he has been given the quick brush-off. He thinks that his complaint has not received the consideration it deserves. Whether the employee is right or wrong is not significant; what is significant is that he *thinks* his problem was not given fair consideration.

3. Get the facts—all of them.

Whatever the complaint, whether about pay, jobload, shift assignment, lack of supplies, and so on almost endlessly, you must get the facts and get them all. It hardly needs to be said that there is usually more than one side to any story. So get the whole story. Talk to other supervisors or employees who may be concerned. If company policy or practice is involved, make sure you have a clear understanding of how it operates. If there are existing records that supply information on the point in question, review them. In short, equip yourself with the pertinent information that will enable you to make a sound decision.

Follow this course, and you increase the possibility of arriving at a better judgment. Note, too, that your knowledge of the facts will help satisfy the complaining employee that your decision, favorable or unfavorable, was reached after a careful consideration of the circumstances involved.

4. Make a decision—or get one.

Shop stewards have often thrived on the negligence of supervisors in answering complaints. Employees want an answer, and if the supervisor is forgetful or dilatory or just plain ignores complaints, the employees soon learn to go to a source where they can get an answer. The shop steward is such a source because he can utilize the grievance machinery to get an answer.

But shop stewards aside, it's the supervisor's responsibility to handle complaints. It is a responsibility that can't be delegated and certainly should not be allowed to deteriorate by default.

Occasionally, the nature of a complaint is such that the decision lies outside the authority of the supervisor. In that event, he should get a decision and make certain that he informs the employee of that decision.

5. Don't pass the buck.

It is an almost irresistible temptation to pass the buck when a decision on a complaint is unfavorable or when you, as a supervisor, disagree with a decision made by higher management. It seems so much easier, and so much more popular, to say, "I'd like to go along with you, but it's contrary to company policy." Or, "I'd agree to your request if I could, but my boss says no."

Blaming an unfavorable answer on company policy or on somebody else is passing the buck. It is shifting the burden of your responsibility to another's shoulders. It is weakening to your position because it invites

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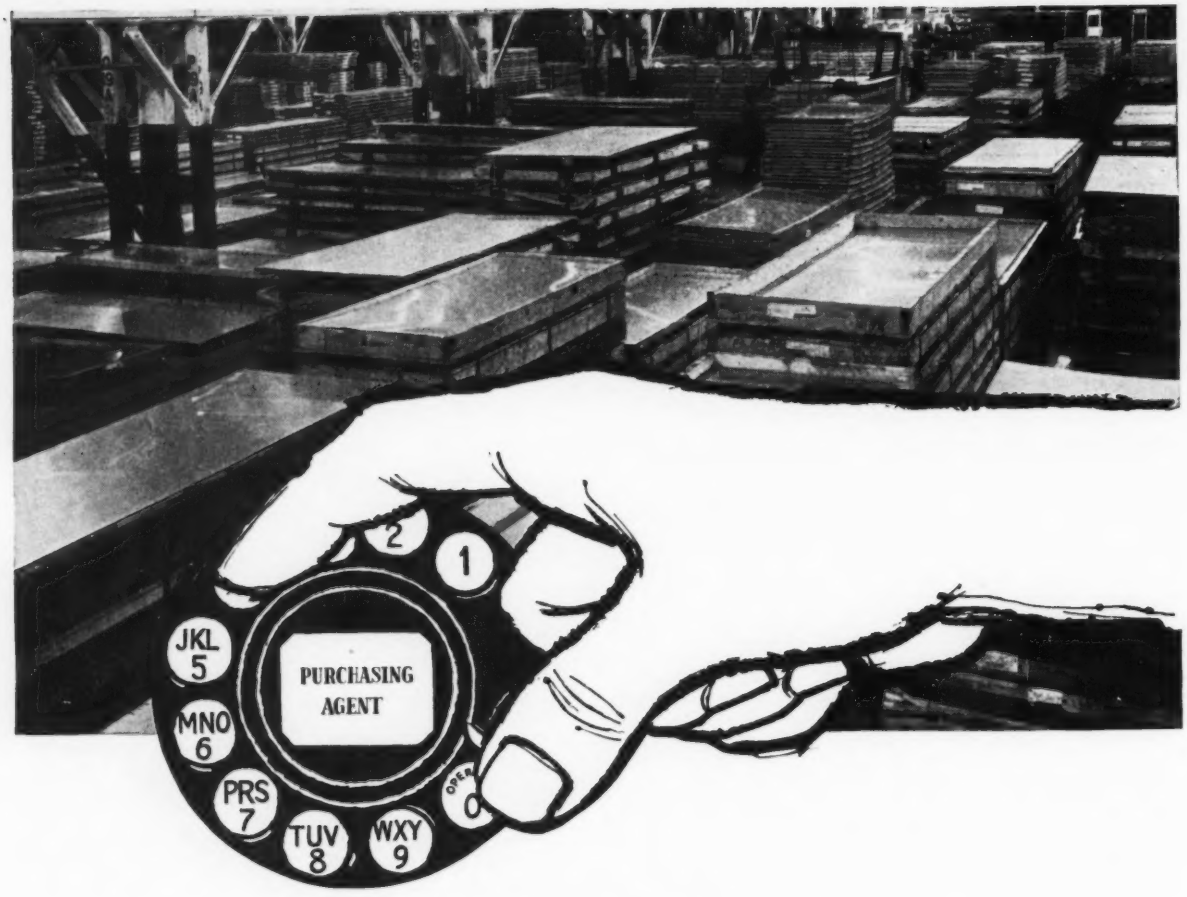

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This Community-Relations Program Spreads Across a Whole State

▶ Alabama's cotton mills have had a leading part in raising the quality of the state's cotton crop. Mills, farmers, and the communities they live in have profited from this long-range program of mutual help.

By MILDRED BARNWELL ANDREWS

DOWN IN THE DEEP SOUTH, raising cotton and spinning cotton are mighty close kin. The farming communities and mill villages almost overlap geographically and are interwoven, economically, into one pattern of prosperity. Many textile-mill employees live on nearby farms and commute to their jobs. Today, cotton farmers and mill management are friends. Farmers are getting top prices for their product from the neighbor cotton mills that are their best customers.

In Alabama, this remarkably friendly understanding is due chiefly to the statewide, mill-sponsored program known as the Cotton Improvement Contest.

Time was when nearly 500 varieties of cotton were grown throughout the South, and in Alabama more than 30 varieties were grown in a single community. The average staple length was not more than $\frac{7}{8}$ in., and the fiber was weak and of poor spinning qualities. In those days, the cotton farmer hauling his crop to the mill built up a wall of resentment against the manufacturers who had to use better-quality cotton from other states and who instructed their cotton buyers that no Alabama cotton should be accepted. It was a sad return for a hard year's work, thought the Alabama cotton farmer.

But that was before 1931, when the first one-variety-cotton community project was inaugurated in the Coates Bend Community near the mill town of Gadsden. The following year another one-variety community was started near Huntsville, another mill town.

Today, the cotton mills in Alabama are united in sponsoring the Cotton Improvement Contest, and the farmer and the mill man are at ease with each other in a new sense of community understanding and statewide progress. The 59,448 farmer members of Cotton Improvement Associations have planted 70% of the state's cotton crop. Today, Alabama cotton is second to none in quality and staple standards. Sale of cotton lint and seed in Alabama in 1953 was estimated at $180,614,000. Alabama farmers led the Southeast in producing high-grade cotton, with average staple length of $1\frac{3}{32}$ ins. Some 92% of the crop was planted to four recommended varieties. Five communities in Alabama are richer in prize dollars, and the entire state is richer in experience and general economic well-being through community understanding and cooperation.

The Cotton Improvement Contest was inaugurated in 1946. It is conducted by the Alabama Cotton Manufacturers Association, with the Alabama-Florida Cottonseed Products Association and the Alabama Polytechnic Institute Extension Service as co-sponsors.

Five prizes—four district prizes of $500 each and a grand prize of $2,000 to the state winner—are awarded each year. The cash awards are furnished jointly by the mills and the cottonseed crushers. The winners of the contest are judged by a special committee under the auspices of API working with county extension agents. Awards are given to the one-variety-cotton communities that have shown greatest improvement in yield per acre and in quality of staple. The only rule about the award money is that it must be used for some community project.

The mechanics of the contest awards are handled through the Alabama Cotton Manufacturers Association, which has a specially appointed committee to work out details and planning. J. Craig Smith, Avondale Mills, is chairman. Other members are J. R. Abney, Julia Cade Mills; T. H. Floyd, Opelika Manufacturing Corporation; Frederick Moore, Florence Cotton Mills; Theodore Pibil, California Cotton Mills; O. C. Thomas, Russell Manufacturing Company; and F. B. Williams, Lanett Mills, West Point Manufacturing Company. The real wheelhorse of the operation is Dwight Wilhelm, executive vice president of the Alabama association.

Chambers, Shelby, Lauderdale, Marengo, and Escambia counties boasted prize-winning cotton-improvement communities on the 1953 crop. The grand prize winner for 1953, The Atmore Cotton Improvement Association, with 34 members, produced an average of 548 lbs. of lint per acre to exceed its 1948-52 average by 74.5%.

Each of the award meetings was a prize-winning celebration at which awards were given the farm groups, speeches were made by members of the mills' committee, and a banquet was enjoyed by the men who raise cotton, the men who spin cotton, and their wives. Each was a real get-together, for all know now that what is good for the farmer is good for the mills and for the communities in which both groups live and work.

At one meeting, the usual prize money was supplemented by another $500 given by an interested citizen as an additional incentive to forward the program of cooperation.

The grand climax of the meetings was the annual "Man on the Land" luncheon, when winning farm groups were brought to the city. This year

CONTINUED ON PAGE 178

Here's a plan to cut costs...up production ...boost profits!

Alemite power guns insure plant-wide bearing protection. Save 23.9 man-hours for every 100 pounds of lubricant!

Where an ordinary hand gun is drained in minutes, an Alemite power gun moves in, gives positive, fast, safe lubrication to hundreds of bearings without refilling. And power transferring and application effect amazing savings in time, lowered maintenance costs, and increased machine life!

Alemite power transferring is 63% faster than ordinary manual transferring methods. Lubricants are kept "refinery clean," fresh and effective. A big portable power gun can be filled in just about 60 seconds—no waste—no mess!

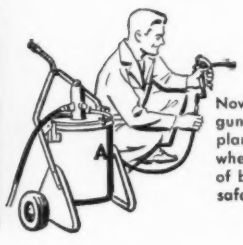
Alemite Portable Power Guns save 23.9 man-hours for every 100 pounds of lubricant used. But the big saving is in increased bearing life—longer operation of machines at peak efficiency. Alemite portable power guns go anywhere in the plant, navigate narrow aisles with ease, give the operator all the pressure he needs at his fingertips. And there is a portable power gun just right for your plant—just right for any type of lubricant from the lightest to the heaviest greases made. Available in both air and electric operated models—from 25 to 50 pound capacity.

A 400 pound barrel of lubricant—any type—arrives at the plant oil room. It's sealed, fresh, "refinery clean."

The Alemite Power Transfer Pump is inserted in the drum. Lubricant stays sealed against dirt, grit, contamination.

In just 60 seconds a portable power gun is filled with lubricant that is still as fresh as when it left the refinery. No mess—no waste!

With Alemite Plan "C" Only Clean Lubricant Reaches Machines



Now the portable power gun rolls anywhere in the plant on its big, easy acting wheels. Servicing hundreds of bearings with clean, safe lubricant!

This combination of power transfer pumps and portable power guns is known as Alemite Plan "C." It is one of the five Alemite plans that your trained Alemite representative can show you. Ask him about the new, colorful, informative slide film, "No Margin for Error," which will help you and your men cut production costs. No obligation, naturally.

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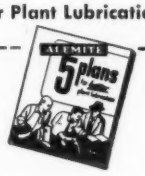
Ask Anyone in Industry

Free! **New Booklet "5 Plans for Better Plant Lubrication"**



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Please send me my copy of
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For more information, write direct or use Reader Service post card.

TEXTILE Equipment NEWS

Loom Let-Off Minimizes Set Marks

A new loom let-off, the Hydro-Tensor, has been developed by Twin Disc Clutch Co., Racine, Wis. The let-off can be simply and economically applied to all popular-model looms, the manufacturer states.

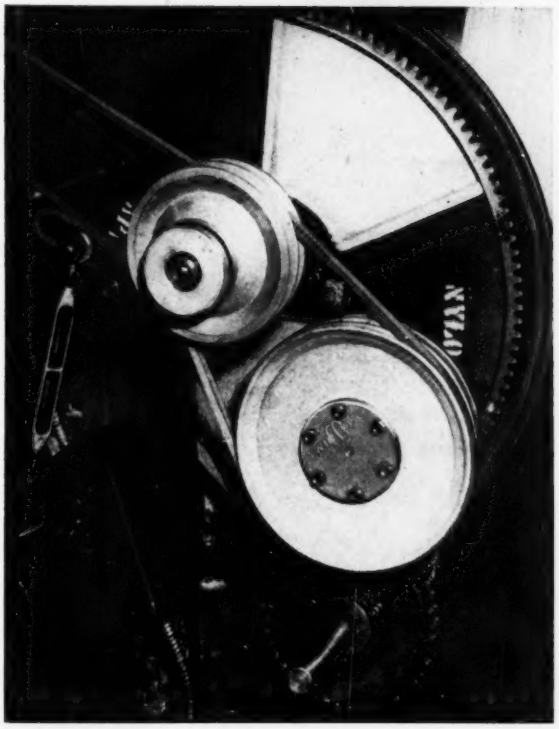
The let-off drive combines fluid-coupling principles with V-belt arrangements and chain drives. Cams, gears, and other positive-drive mechanisms are eliminated. The fluid-coupling operation maintains uniform warp tension from full to empty beams.

The Hydro-Tensor is said to relieve warp tension during week-end shutdowns; and as a result, set marks are minimized when looms are restarted. Another reported advantage is ease in repositioning the loom beam to the fell of the cloth and after pick-outs in the cloth.

The fluid coupling is of particular importance in weaving synthetic fibers because the inertia effect of the warp beam is dampened.

Warp tension can be regulated through a broad range from high to low with one simple adjustment; and without adjustment, the mechanism responds to great variations of picks per inch. For example, broadcloth patterns of 128 ppi. were changed to patterns of onion bags of 8 ppi. without any adjustments other than for tension.

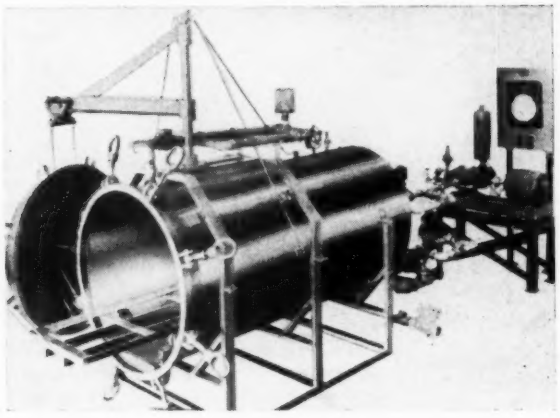
The let-off has few moving parts and, therefore, requires little maintenance. Ball bearings and roller bearings are both used to produce maximum efficiency and longer life.



UNIFORM WARP TENSION from full to empty beam results from a combination of fluid-coupling, V-belt and chain drive on the Hydro-Tensor let-off that can be applied to all standard looms.

Circle T-1 on Reader-Service Card

Pressure Machine Conditions Helanca Evenly to the Core



PRESSURE AUTOCLAVE for conditioning Helanca yarn operates automatically in a 30-min. or less cycle. Quality control is said to be the main feature.

A pressure autoclave for steam setting Helanca yarn has been developed by Gaston County Dyeing Machine Co., Stanley, N. C. The controlled vacuum-pressure system completes a cycle in 30 mins. or less, depending on the steam injection required. However, the primary purpose of the Hy-Vacuum autoclave is said to be quality improvement rather than time saving.

The manufacturer claims positive shrinkage: the yarn is said to be shrunk and the twist uniformly set all the way to the spool core. The process is fully automatic. A push button starts the vacuum pump, and a 22- to 25-lb. vacuum is produced in 2 to 3 mins. Then the pump stops automatically.

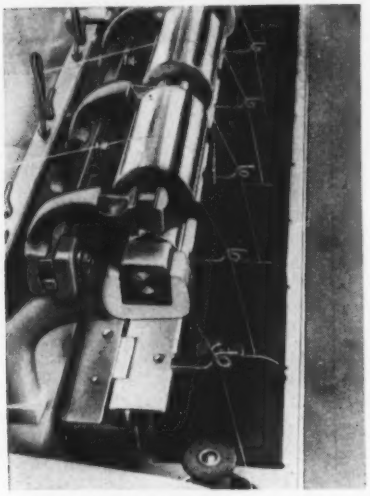
Steam is injected at controlled temperatures for any desired time period and is expelled automatically. When the cycle is complete, relief valves restore atmospheric conditions.

The autoclave can be built to specifications to accommodate trucks and racks already in use.

Experiments in woolen and worsted mills also indicate the autoclave might replace conventional steam-box steaming because of quality improvements.

Circle T-2 on Reader-Service Card

Whitin's New Ring Twister Has a Rugged Construction



YARN PATH from the front roll to the thread guide is an almost vertical line. Improved tension and quality result.

The Pacemaker ring twister is now available from Whitin Machine Works, Whitinsville, Mass. It can be supplied with 2½- to 4½-in. autolubricated rings, grease groove or common. Conventional or antifriction spindles can be furnished.

The frame is made of extra-heavy cast iron and is rigidly braced. Extremely long machines can be built if desired.

A standard four-spindle tape drive makes a 90° contact with each whorl; other features of the spindle drive are antifriction tension pulleys and steel pulleys on antifriction-bearing shafts.

The thread path from the front roll to the thread guide is an almost vertical line; this means more-uniform yarn tension, improved quality, and longer thread life. The height from the roller beam to the bottom roll gives plenty of clearance for threading. Top rolls are supported with individual fingers for better alignment with the bottom rolls, and a single or double line of rolls can be furnished.

Ring rails are counterbalanced with a coil spring, which gives a smoother traverse and lower maintenance on the lifting parts. Rails can be made from cast iron, steel, or aluminum.

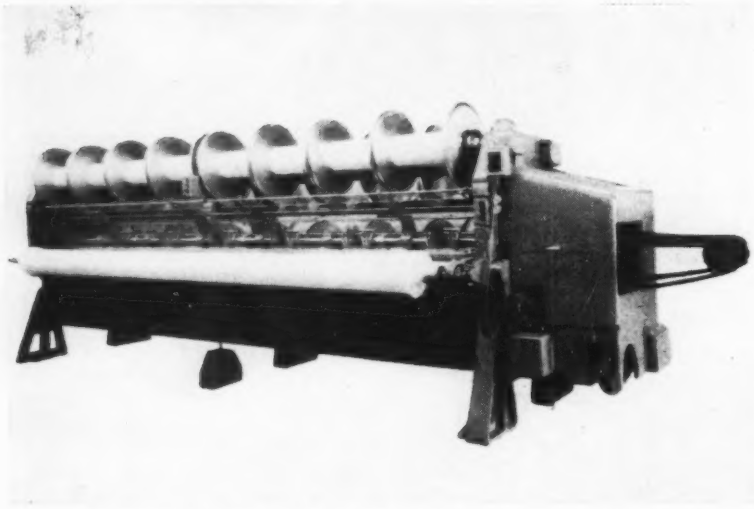
Full-length separators are mounted on the spindle rail. This feature reduces the weight carried by the ring rail and the load on the builder. The builder drive is mounted on antifriction bearings.

Creel space allows side or over-end drawing, and creel rails are adjustable vertically or horizontally.

A combination of metal and laminated-Bakelite gears keeps noise levels to a minimum. A central-lubrication system for all running parts in the head end can be supplied. The motor is mounted on a swing base under the foot end of the machine.

Circle T-3 on Reader-Service Card

Three-Bar Tricot Machine Operates at 520 Courses per Minute



TRICOT MACHINE can attain speeds of 520 courses per minute as a three-bar machine and 700 courses per minute as a two-bar machine.

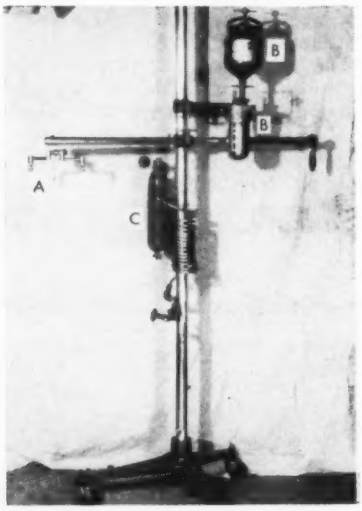
A new Mayer three-bar tricot machine is said to operate so smoothly that a nickel will stand on edge on the machine while the machine runs at 520 courses per min. Alfred Hofmann & Co., 629-635 59th St., West New York, N. J., represents the Mayer concern.

The machine can be converted to a two-bar machine without cam changes. Speeds of 700 courses per minute are claimed for the machine in knitting two-bar fabrics. Patterns can be made with chain links.

The cams are calculated by sinus curves to coordinate the motions to allow the machine to run smoothly. Quick change-overs from one fabric to another are possible. A warp-drive mechanism provides positive yarn control by suspending the driving action during predetermined cycles for each warp.

Circle T-4 on Reader-Service Card

Portable Dry Spray Helps Control Fiber Static

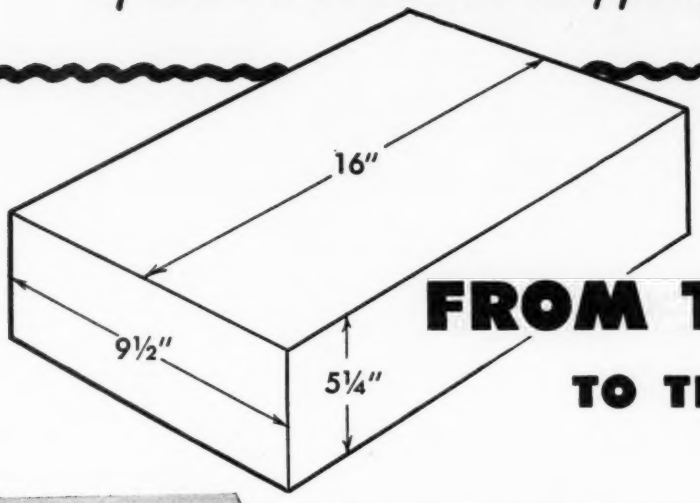


A PORTABLE SPRAY for dusting fiber with an antistatic powder has been announced by Craft-Print Specialties Co., 5 Alling St., Newark, N. J., designer and distributor of the device. It is manufactured by International Dry Spray Co., 13 E. 19th St., New York, N. Y. As shown in the photograph, the spray consists of spray nozzle *A*, which direct the powder onto the fiber; powder containers *B*; and dehumidifier *C*, which keeps the powder line dry to prevent caking. The powder line from *B* to *A* is not shown in the photograph. The device can be connected with a mill's compressed-air line, or a portable compressor can be supplied with the unit.

Circle T-5 on Reader-Service Card

Showing the WIDE SIZE RANGE

of the Universal 6 wrapping machine



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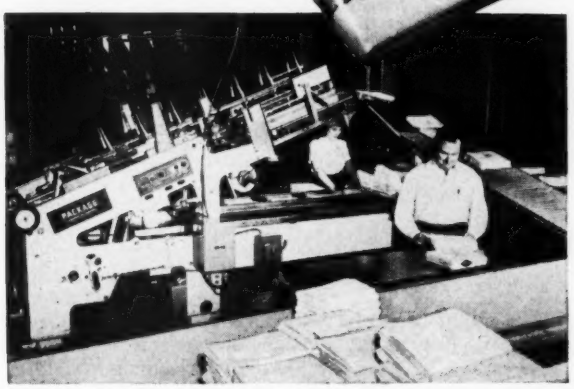

Universal 6 wrapping sheets and pillow cases at Erwin Mills, Durham, N. C.

Goods may be wrapped in Polyethylene, Vitafilm, Cellophane, etc.

(PLAIN OR PRINTED)

Those who saw the Universal 6 machine at the recent Textile Show were amazed at its versatility. Here is a machine that lets you use any type of wrapping material best suited to your product. And its wide size range covers practically every textile product that can be packaged.

Printed wrapping material is accurately located on the package by electric eye. The machine can be changed over from one size package to another in less than five minutes—only two hand-wheel adjustments needed.

Features a self-measuring wrapping material feed that automatically takes care of variations in height and width of items being wrapped. Goods may be in cartons, in trays or on flat cards—and some products can be wrapped without any card at all.

SPEED: 20 to 40 handsomely wrapped packages a minute.

Write for literature on the Universal 6

NEW YORK PHILADELPHIA BOSTON CLEVELAND CHICAGO
ATLANTA DALLAS DENVER LOS ANGELES SAN FRANCISCO
SEATTLE TORONTO MEXICO, D.F.

PACKAGE MACHINERY COMPANY
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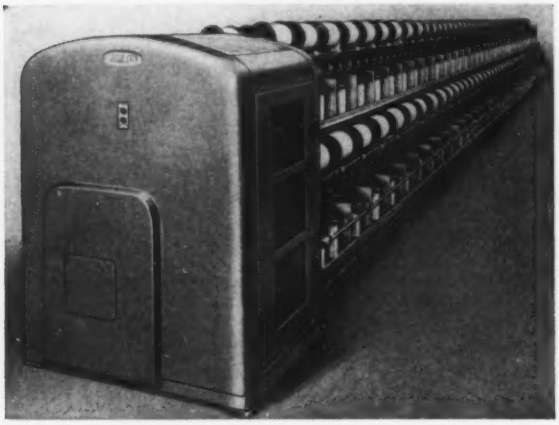
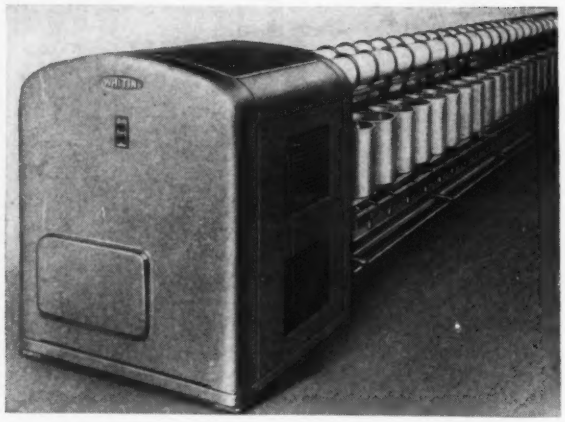
 For more information, write direct or use Reader Service post card.

Two Uptwisters Used Together in Processing Tire Cord



PLY-KING is a double-deck uptwister used to twist two ends together. Flanged package weight is about 9 lbs. The package is then used as supply package on the Cable-King. Speed is 5,250 rpm. Whitin Type 590BB spindles are used with double-shoe hand brakes. The traverse mechanism features minimum vibration and easy adjustment of stroke. Porcelain guides are said to be easily threaded.

Circle T-6 on Reader-Service Card



CABLE-KING is a single-deck uptwister with circular aluminum balloon-control units. It takes a 9-lb. package from the Ply-King and builds a 9-lb. package on headless or flanged packages. With flanged package, the traverse parts are interchangeable with Ply-King parts. With headless packages, a new traverse mechanism with self-threading adjustable guide is used.

Circle T-7 on Reader-Service Card

Two improved uptwisters for processing tire cord and industrial yarns have been introduced by Whitin Machine Works, Whitinsville, Mass. The uptwisters are used in the two-stage process of uptwisting tire cord: The double-deck Ply-King plies two ends of low-twist yarn from cones to a 9-lb. package; then the yarn is cabled on the single-deck Cable-King. The Cable-King can also be used for cabling tire cord twisted from beams and doubled on a doubler.

The machines can also be used in processing tufted-carpet cotton yarns, duck yarns, and other heavy industrial threads. They have several features in common.

Both are constructed for strength and rigidity. All gearing is lubricated by Bijur one-shot systems.

Traverse rods are tubular steel and are supported in oil-impregnated bearings. Traverse speeds are controlled by gear changes. Alloy steel is used at wear points.

Balloon guides, which are chromium-plated steel, are supported by stands with balls for an easy swing and quick doffing.

Spindles are driven by a four-spindle tape drive; each spindle whorl is contacted at 90°. Pulley shafts are mounted on ball bearings, and antifriction tape-tension pulleys maintain correct tension.

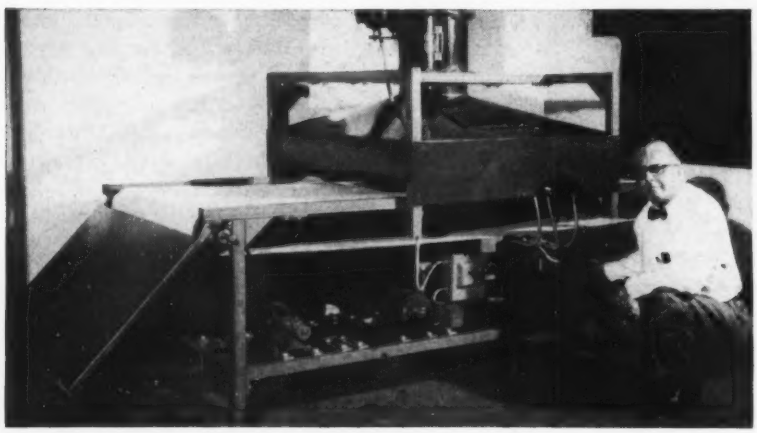
Take-up rolls have ball bearings to carry the heavy loads, and the support arms have replaceable inserts that require no lubrication. Bosses work on antifriction bearings.

Production figures:

For a 296-spindle, 9-in.-gauge Ply-King double-winding 1,650-den. rayon (10 tpi., Z twist) at 5,250 rpm. and 90% efficiency: 85 lbs. per hr.; .288 lbs. per spindle hour.

For a 120-spindle, 11-in.-gauge Cable-King cabling two ends of 1,650-den. rayon (12 tpi., S twist) at 5,250 rpm. and 90% efficiency: 50 lbs. per hr.; .481 lbs. per spindle hour.

Drying Tunnel Kit Simplifies Installation for Screen-Process Drying



DRYING-TUNNEL KIT offers quick, low-cost assembly of far-infrared drying tunnels.

Circle T-8 on Reader-Service Card

Air-flow drying-tunnel kits are now available from Edwin L. Wiegand Co., 7701 Thomas Blvd., Pittsburgh 8, Pa. The kits offer quick, low-cost assembly of Chromalox far-infrared tunnels for screen-process drying.

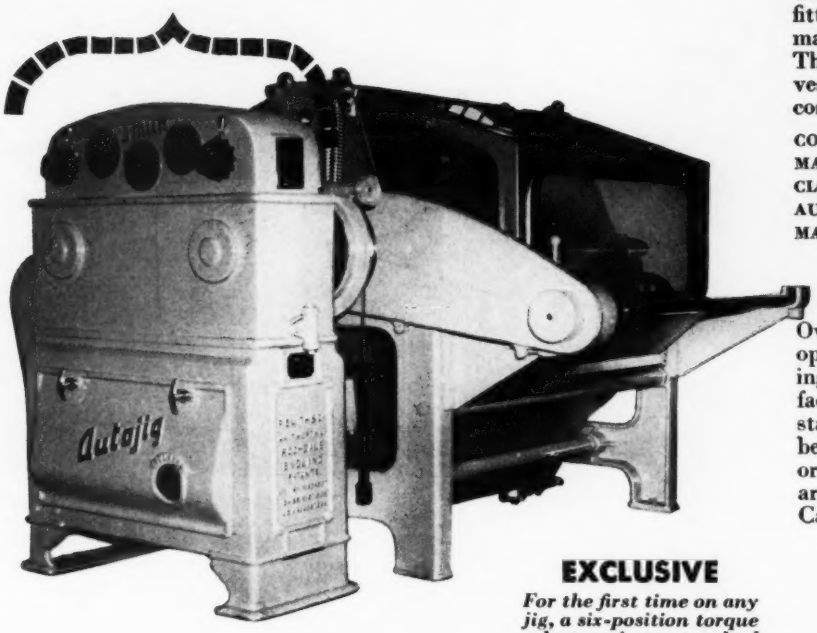
The unit is said to give rapid, controlled drying and to save floor space and reduce production costs. Each kit contains the component parts required to construct a tunnel with a 36-in.-wide belt. Belt speeds of 5.6 to 23.4 ft. per min. are obtainable. Intensity is variable from 4 to 100% of capacity.

Two models are available, one with a hood length of 46 ins. and three radiant heaters, and the other with a 70-in. hood and six heaters.

Slow rack drying is said to be eliminated with drying.

TEXTILE *Equipment* NEWS

Autojig® HEAD makes your jig AUTOMATIC



The Autojig *drive head* can be fitted to your present dye jigs making them fully automatic. This reduces your original investment and decreases operating costs.

CONSTANT CLOTH SPEED . . . AUTOMATIC FREE WHEEL BRAKES . . . CLOTH TENSION INDICATOR . . . AUTOMATIC LUBRICATION . . . LOW MAINTENANCE COST

Over 800 *Autojigs* are now in operation. Complete jigs, utilizing this *Autojig* head, are manufactured by Cook-P&N. The stainless steel-bodied jig unit can be supplied with rubber-covered or stainless steel rolls. All parts are carried in stock at Boston. Can we send more information?

EXCLUSIVE

For the first time on any jig, a six-position torque selector gives a gradual slowing, stopping and restarting, preventing fabric stretch.

(PATENTED)

COOK HORIZONTAL SCRAY

OVERHEAD INSTALLATION

No floor space is needed for this unique scray that is suspended overhead. Cloth of all widths from 25 yards per lb. up are handled without guiders. 300- to 1500-yard capacity scrays are in operation with dye pads, bleaching, dyeing, Plisse and finishing ranges and printing machines for both grey and white goods.

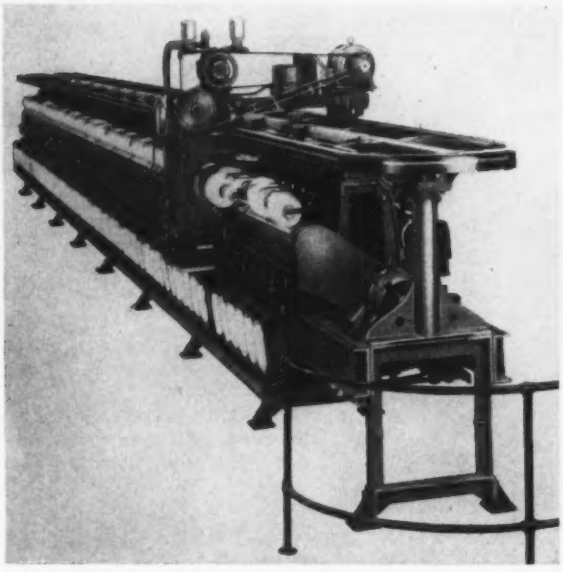
Cook P&N

DESIGNERS AND MANUFACTURERS OF RANGES FOR

MACHINE CO., INC., 365 DORCHESTER AVE., BOSTON 27, MASS.

BLEACHING, DYEING, FINISHING, MERCERIZING, CLOTH OPENING AND WASHING

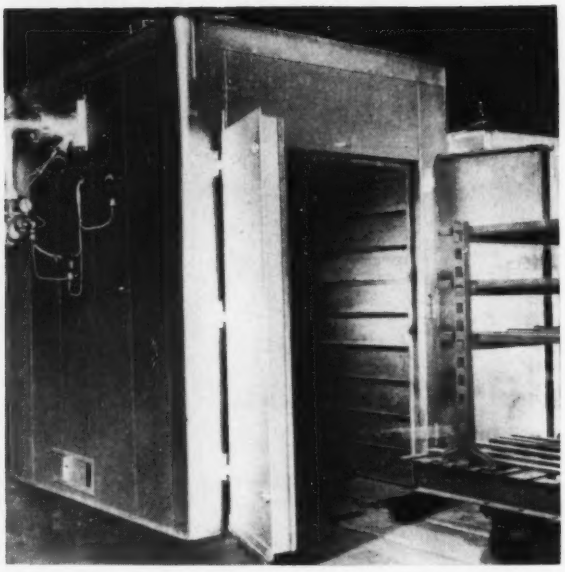
Spooler Works With Large-Package Spinning



TYPE D SPOOLER was developed by Barber-Colman Co., Rockford, Ill., as a result of the tendency to large-package spinning. For mills with spinning frames producing up to a 16-oz. bobbin, the Type D spooler will spool packages weighing up to 6 lbs. The Type D is not intended to replace the Type C.

Circle T-9 on Reader-Service Card

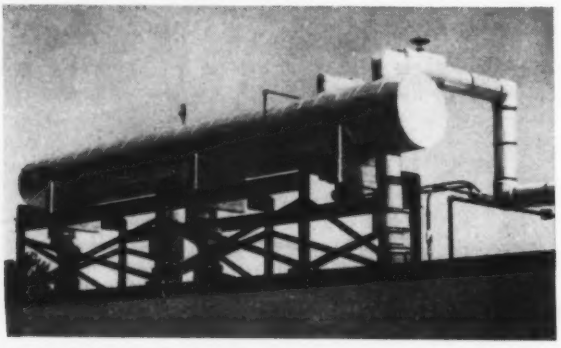
Standard Oven Includes Custom-Built Features



A NEW KILN-TYPE OVEN for baking, heating, drying, and curing has been developed by Michigan Oven Co., Detroit, Mich. The oven, competitively priced, is said to include several custom-built features that make possible a high degree of heat uniformity with less fuel consumption. Either gas or electricity is used to operate the oven.

Circle T-12 on Reader-Service Card

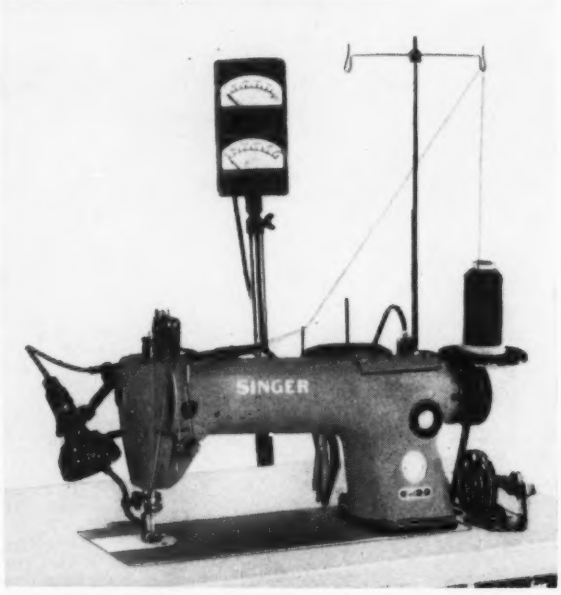
Aluminum Insulation



ALUMINUM SHEET JACKETING for insulating pipelines and equipment is available from Aljon Mfg. Co., Inc., Chestnut St., Roselle, N. J. The material can be applied to cold or hot material. Painting is unnecessary, and it can be removed and reused. Two forms are available: with or without a vapor barrier.

Circle T-10 on Reader-Service Card

Tester Checks Temperature Of Sewing-Machine Needles



NEEDLE-TEMPERATURE INDICATOR is valuable in evaluating the sewability of new finishes and fabrics. It also can be used to check lubrication of needles. Made by Singer Sewing Machine Co., 149 Broadway, New York 6, N. Y., the complete unit sells for $1,480. The unit includes a lockstitch machine mounted on a Formica-top table and driven by an electric transmitter, a variable-speed control, a compressed-air needle cooler, and indicators.

Circle T-13 on Reader-Service Card

Small Cotton Colorimeter

A Junior model of the Gardner-Nickerson Cotton Colorimeter is available from Macbeth Corp., P. O. Box 950, Newburgh, N. Y. The Junior model is a simplified instrument that operates on the same principles (automatic and direct-reading) as the Senior model, but constructional changes make a lower price possible. A 30-day free trial is offered.

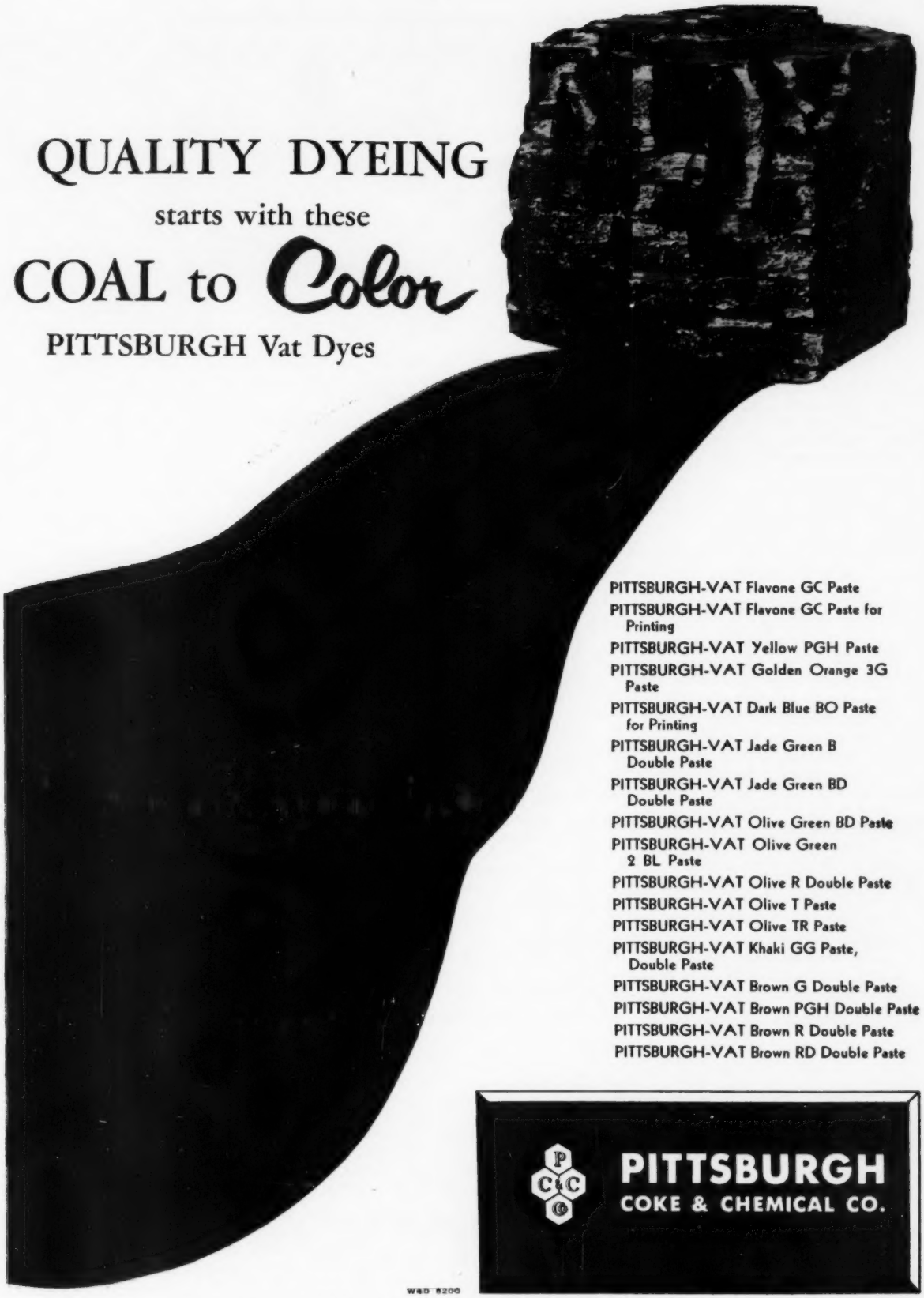
Circle T-11 on Reader-Service Card

QUALITY DYEING

starts with these

COAL to Color

PITTSBURGH Vat Dyes



PITTSBURGH-VAT Flavone GC Paste
PITTSBURGH-VAT Flavone GC Paste for Printing
PITTSBURGH-VAT Yellow PGH Paste
PITTSBURGH-VAT Golden Orange 3G Paste
PITTSBURGH-VAT Dark Blue BO Paste for Printing
PITTSBURGH-VAT Jade Green B Double Paste
PITTSBURGH-VAT Jade Green BD Double Paste
PITTSBURGH-VAT Olive Green BD Paste
PITTSBURGH-VAT Olive Green 2 BL Paste
PITTSBURGH-VAT Olive R Double Paste
PITTSBURGH-VAT Olive T Paste
PITTSBURGH-VAT Olive TR Paste
PITTSBURGH-VAT Khaki GG Paste, Double Paste
PITTSBURGH-VAT Brown G Double Paste
PITTSBURGH-VAT Brown PGH Double Paste
PITTSBURGH-VAT Brown R Double Paste
PITTSBURGH-VAT Brown RD Double Paste

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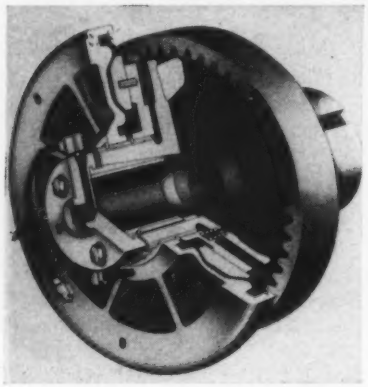
Air-Operated Loom Clutch Has Finger-Tip Control



DIRECT AIR PRESSURE is used to operate the Twin Disc PT clutch. The clutch provides finger-tip control, is self-compensating for wear, and has tapered-sleeve hub construction to fit existing looms.

A new air-actuated loom clutch has been announced by Twin Disc Clutch Co., Racine, Wis. Pressure to the clutch plates is applied by direct air pressure in an expanding chamber.

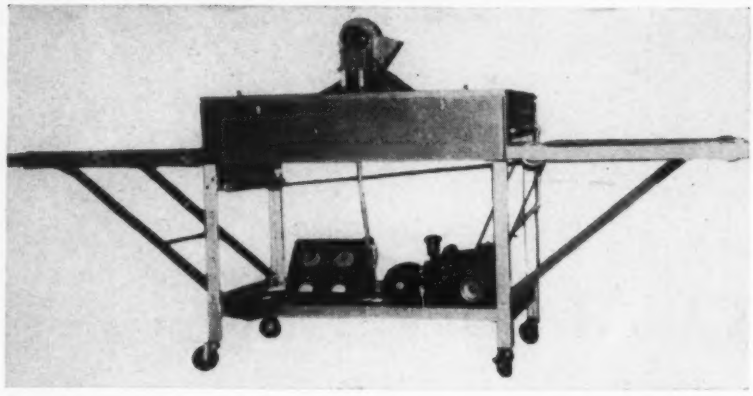
With capacity in direct proportion to the air pressure applied, the air-actuated clutch (Model PT) is self-compensating for wear; and need of adjustment is completely eliminated. The clutch can be furnished with finger-tip or push-button control from single or multiple stations.

The clutch is compact and rugged in construction and has few working parts. As a result, the manufacturer claims the clutch will have long life and low maintenance costs. Further design advantages are provided in such features as tapered-sleeve hub construction to fit minor variations in loom-shaft sizes. This feature makes the clutch readily adaptable to existing looms or easily designed into new looms.

The new clutch can also be used as a brake and is applicable to other textile machinery.

Circle T-14 on Reader-Service Card

Plant Demonstrations With Portable Dryer



CONVEYOR DRYER for test use is a portable unit used for demonstrations of the Corning heating panel. Requests for mill demonstrations can be made to Herbert Products, Inc., 74-32 Jamaica Ave., Woodhaven 21, N. Y

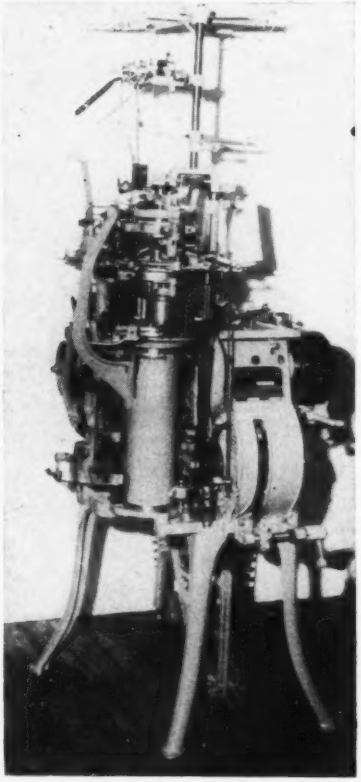
Circle T-16 on Reader-Service Card

New Cotton-Card Gear Motor

GEAR-MOTOR DRIVE for cotton cards is available from Westinghouse Electric Corp., Dept. T-081, Pittsburgh 1, Pa. The new unit mounts directly on the card shaft. A torque arm anchors the unit to the card frame and prevents the gear motor from turning. Aisle space required is the same as for a belt pulley. Double-reduction helical gears reduce motor speed to the card operating speed. The 1½-hp. high-torque motor is totally enclosed and nonventilated.

Circle T-17 on Reader-Service Card

Speizman Making Spiral Out of Seamless Machines



WOMEN'S SEAMLESS HOSIERY machines are being rebuilt by Morris Speizman Co., Inc., 508-514 West Fifth St., Charlotte 1, N. C., into 3½-in.-dia., 370-needle, 25-step spiral machines. The machine is called Type E, is fitted with gusset toe and Y-heel attachments, and can be used for plain or micromesh hose.

Circle T-18 on Reader-Service Card

Plastic-and-Nylon Spindle Tape

Spindle tape woven of a Velon plastic-yarn warp and nylon filling has been developed by Firestone Plastics Co., Pottstown, Pa., and Russell Mfg. Co., Middletown, Conn. According to a two-year test at Firestone Textiles, Gastonia, N. C., the tape has greater stretch, lint and fire resistance, and longer wear than the other types used by Firestone Textiles.

Since Velon yarn will not stretch, the spindle speed ratio does not vary much, and no allowance needs to be made for stretching.

Lint doesn't cling to the tape because nylon and Velon have opposite polarities, which gives a neutral charge.

Circle T-15 on Reader-Service Card

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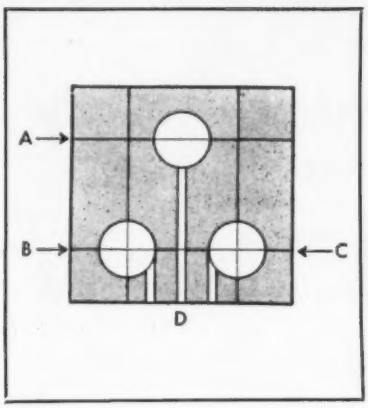
Multiple Jet Sprays Apply an Even Emulsion to Wool



Multiple jet sprays for applying oils and emulsions to wool stock have been developed by Walter E. Hensel, 53 Paul St., South Berwick, Me. Forty-eight-inch pickers operate with 16 to 38 jets, depending on the volume required. The emulsion is vaporized into a fine spray by a compressed air stream at 5 to 10 lbs. pressure.

EACH JET UNIT (shown in cross section) has feed lines and jets machined into solid brass bar stock. Air picks up emulsion at *D* and develops a fine vapor spray. Port feeds *B* and *C* feed into air line *A* for uniform distribution. For some applications, three port feeds are required.

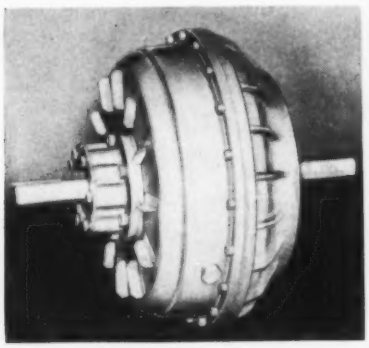
Circle T-19 on Reader-Service Card

Uniformity is assured because emulsion lines and air lines are drilled separately through the length of the unit; so air does not contact the emulsion until after ejection, which results in a uniform application at low air pressure.

Feed lines and jets are machined into solid-brass bar stock. Each unit is supplied with an emulsion strainer, air-line strainer, emulsion regulator, air regulator, and air gauge. Regulators can be set to assure the same volume from lot to lot.

A cross blow from air lines can be opened to blow out emulsion lines to keep them clean.

Warper Drive Holds Yarn Tension Constant



FLUID COUPLING DRIVE with planetary-gear set insures yarn winding at constant tension on warper section beams without danger of end breakage.

The newly designed Hydro-Wynd drive manufactured by Twin Disc Clutch Co., Racine, Wis., is available in Models 12.2 and 8.4. The 12.2 unit is a large-capacity drive. To date, the main application of the drives has been on warpers.

New features of the drives include rearrangement of the gear train, better spacing of bearings, and a new carbon-against-Meehanite spring-loaded seal. Higher capacity, greater strength, and longer life result.

The units are designed to automatically maintain predetermined tension without intermittent adjustment, the maker says. A fluid coupling on the input end of the drive teams with a planetary-gear set on the output end to slip at the proper times to automatically adjust the drive speed to beam-diameter changes.

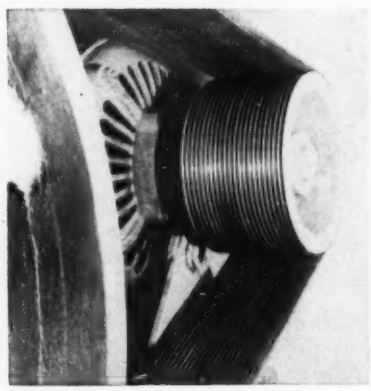
Circle T-20 on Reader-Service Card

Made-To-Order Trucks

BOBBIN CARRIERS are being made to order by Standard Pressed Steel Co., Jenkintown, Pa. Used in spinning and weaving mills, the carriers are developed from rough sketches or to requirements. Each row of pins is bolted to the frame, which is welded to the chassis. Bobbin pins can be easily changed. The carriers can be cadmium or zinc plated or hot-dip galvanized. Four casters with large tires are used. A rubber bumper can also be put around the chassis.

Circle T-21 on Reader-Service Card

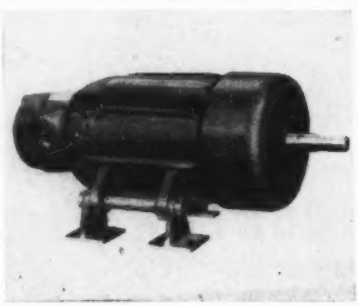
More Horsepower, No Belt Matching



POLY-V DRIVE is an endless rubber belt with a series of parallel V-ribs molded lengthwise around the inside circumference. Continuous synthetic cords go across the width. The grooves mate precisely with the belt ribs, and the load is distributed equally. No belts need to be matched. The manufacturer is Manhattan Rubber Div., Raybestos-Manhattan, Inc., Passaic, N. J.

Circle T-22 on Reader-Service Card

Reliance Announces Spinning-Frame Motor



AIR-COOLED MOTOR for spinning frames is announced by the Reliance Electric & Engineering Co., 1088 Ivanhoe Rd., Cleveland, Ohio. It is mounted under the frame. An axial-flow fan forces air at a high velocity over the motor. In this manner, motor heat is distributed to a large surrounding area to eliminate hot spots anywhere along the spinning frame. Smooth contouring is another aid to lint-free operation.

Belt tension is easily adjusted by a jack screw on the swiveled mount. An integrally mounted brake is optional, depending on application requirements.

Circle T-23 on Reader-Service Card

HEAVIER and HUSKIER

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DURAWELD SHUTTLE

. . . has been used successfully for years by leading mills everywhere and is no longer considered experimental.

Its added and consistent weight provides a shuttle 10% heavier than the usual dogwood or fibre covered shuttle, thus reducing "Throwing out" and the consequent breakage due to this action.

Duraweld . . . is Southern's trade name for shuttles made with dogwood centers having one or two sides of *Stehide* or *Compreg*. The two materials become an inseparable unit through an unusual action of molecular adhesion.

Stehide . . . is Southern's trade name for high density phenolic impregnated cloth laminate.

Compreg . . . is Southern's trade name for high density impregnated wood laminate. The Duraweld construction is applicable to all types of shuttles and provides—

Greatly strengthened side walls . . . Elimination of wood defects . . . Will not heat up . . . Use of less loom power due to greater weight . . . Resists splitting . . . Moisture proof in side walls. All of these plus many more advantages make the cost of Duraweld less over a period of time.

Consult your nearest Southern Shuttle Field Engineer for the information you require.

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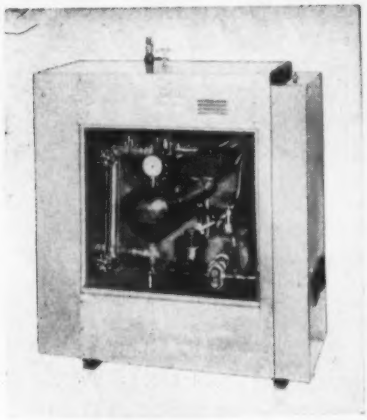
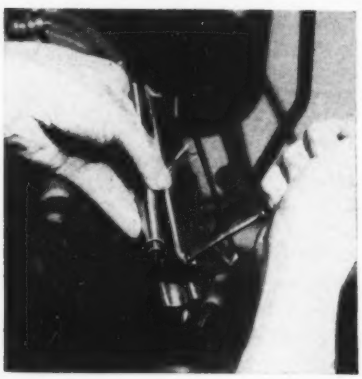
Portable Steam Generator



STEAM GENERATOR for building maintenance is portable to provide on-the-spot steam for jobs away from a central steam supply. Made by Columbia Industries, Inc., Columbia, Pa., the unit needs only water and 220-v. outlets to work. In 5 mins. you have a 100-psi. head at 320° F. Pressure is maintained at preset level. Besides live steam, the unit can deliver hot water, steam and detergent solution, steam and hot-water detergent solution, and cold-water rinse.

Circle T-24 on Reader-Service Card

Free-Turning Roller Ball For No. 50 Winder



NEW ROLLER BAIL for Leesona No. 50 winder has the bearing seated in the bail holder instead of the roll end. By loosening two screws, the bail is unclipped from the frame. Precise adjustment is not required. Made by Universal Winding Co., Box 1605, Providence 1, R. I., the bail has a larger diameter for closer control of tension and density in winding pineapple cones or dye packages of synthetic yarn. Sealed-in lubrication is said to last the life of the bearing. Only the inner race of the bearing turns; so its surface speed is reduced.

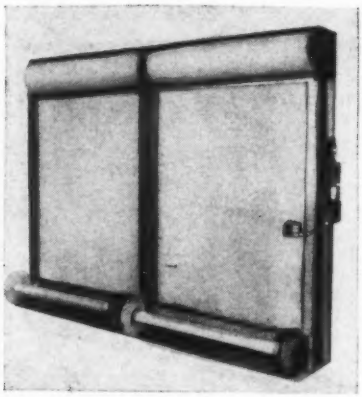
Circle T-25 on Reader-Service Card

Longer Fluorescent Lamp

EIGHT-FOOT FLUORESCENT LAMP, developed by General Electric Co., Nela Park, Cleveland 12, Ohio, produces 35% more light than previous models. The 110-w. lamp's base is a new design.

Circle T-26 on Reader-Service Card

Glass-Fiber Filter Mat



SELF-CLEANING AIR FILTER has a glass-fiber filtering media for cleaning outside and recirculated air in ventilating and air-conditioning systems. Made by American Air Filter Co., Inc., Louisville 8, Ky., one roll of Roll-O-Matic filter will last a year for a capacity of 10,000 cu. ft. per min. One drive mechanism operates three to six sections, depending on their height.

Circle T-27 on Reader-Service Card

Correction

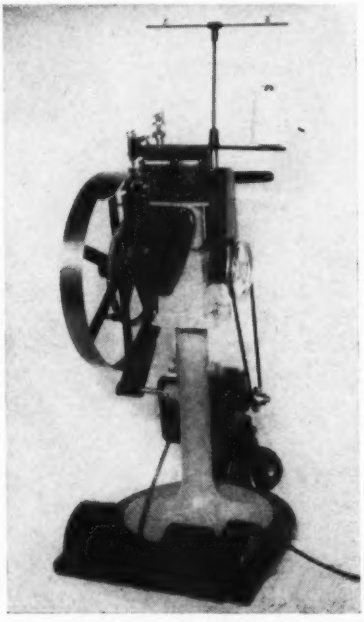
Under the heading, "Heat Exchanger Increases Efficiency of Dryer," a closed-system dryer was described in the January issue of TEXTILE WORLD, page 144. This dryer was developed and is manufactured by B. Thies, Specialmaschinenfabric, Coesfeld, Westphalia, Germany. In the description, the dryer was attributed to another company. We regret the error.

Safety Features Are Added To Tape-Cutting Machine

TAPE-CUTTING MACHINE automatically measures and cuts ribbon, tape, and webbing in lengths from 2 to 160 ins. at speeds up to 7,200 cuts per hour. Tapes are handled to 3 ins. wide, and sometimes two rolls can be fed. Made by Artos Engineering Co., 2757 S. 28th St., Milwaukee 46, Wis., a gear transmission and housing has replaced belts, and a protection cover is standard equipment. For sealing nylon cuts, heated knives can be adapted. Bench space required is 17x24 ins.

Circle T-28 on Reader-Service Card

For Heavy-Duty Sewing



HEAVY-DUTY SEWING MACHINE has a foot switch on the pedestal base for easy operation. Made by Dinsmore Mfg. Co., 288 Derby St., Salem, Mass., it can be equipped with a Dinsmore single chain-stitch head or Merrow butt-seaming head. The sewing head is synchronized to the gear reducer; gears have a coarse pitch to prevent backlash; and a ratchet drives the cloth pin wheel to prevent cloth slippage.

Circle T-29 on Reader-Service Card

CONTINUED ON PAGE 216

for better SANFORIZED FABRICS insist on BALANCED TWITCHELL OILS®

It's the Balanced Combination of Properties... THAT COUNTS!

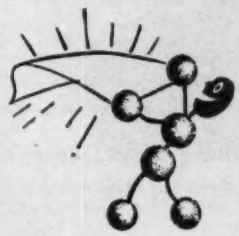
Twitchell Oils not only give you outstanding rewetting, but they provide the perfect balance of essential characteristics for better Sanforized fabrics at low cost. Prove this in your plant by ordering enough for a week's run today!

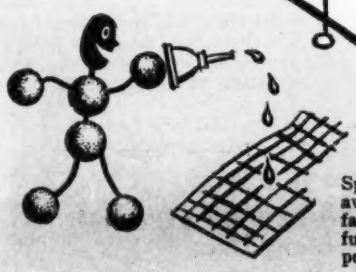
Faster production through
FAST REWETTING

With Twitchell Oils, fabrics wet back rapidly and uniformly. And, full effectiveness is retained even when treated fabrics are stored for long periods ...thus assuring maximum throughput per range under all conditions.

Better Sanforized fabrics through
FREEDOM FROM STAINING

Fabrics smell better, look better to the buyer because of the high stability of Twitchell Oils. Treated fabrics possess maximum resistance to rancidity, yellowing or staining with age... remain fresh and appealing longer.





Faster production through
BETTER FIBER LUBRICATION

Speed slowing sticking at the shoes is avoided. Rejects or re-runs because of fabric distortion are minimized... thus further assuring maximum production per range.

Better Sanforized fabrics through
SOFTER HAND

Twitchell Oils offer a range of softness to give you the hand you want, the hand that appeals to buyers. This fourth property of softness permits a reduction, or in many cases a complete elimination of softening agents.

Choose the Twitchell Oil that Best Meets Your Requirements

Twitchell 7231—(All Mineral) Best for heavy starch finished and heavy-weight fabrics such as denims and other work clothing.

Twitchell 7240—(Fatty-Mineral Blend) offers the lubricity of mineral oils plus the hand of fatty oils at low cost. Best for all-purpose work.

Twitchell 7250—(All Fatty) Best for maximum rewetting speed, and for shirtings, dress goods and other light-weight, bright-color work where stability and softness are essential.

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NEW *Dyes* AND *Chemicals*

Direct Dyestuff For Cotton and Rayon

Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y., has added Cuprophenyl Brilliant Blue 2BL and Cuprophenyl Rubine RL to its line of cuprophenyl dyestuffs. The cuprophenyls are direct dyestuffs for cotton and rayon. They require aftertreatment with copper salt to develop their true shades and high fastness to light and washing.

Cuprophenyl Brilliant Blue 2BL does not affect acetate and so may be used for cross-dyeing effects. In addition to their use on filament- and spun-rayon fabrics, the cuprophenyls are recommended for dyeing cotton knit goods and hosiery.

Circle D-1 on Reader-Service Card

Chrome Blue Dye for Wool

A chrome dye that produces rather subdued reddish-blue shades on wool has been announced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y.

Called National Alizarol Cyanone BLL, this dye can be applied by all three chrome-dyeing methods. The shade produced by the bottom-chrome process is appreciably redder, brighter, and stronger than those produced by the top-chrome or metachrome process. The fastness properties are essentially the same for all three processes.

Circle D-2 on Reader-Service Card

Improved Fatty Acid Blends With Solvents and Oils

Maywood Chemical Works, Maywood, N. J., recently announced Maypon K-903, a protein-fatty acid condensation product. This product, a further development of Maypon K, is recommended by the manufacturer for application on cotton, rayon, nylon, and wool in the form of loose stock, yarn, and woven fabric. It is said to have good over-all efficiency in wetting, dyeing, scouring, milling, and spot removing. In emulsions, it has increased compatibility with solvents and oils.

Circle D-3 on Reader-Service Card

Chrome Dye for Wool

Sandoz Chemical Works, Inc., New York, N. Y., announces two new homogeneous chrome dyestuffs for wool.

Known as Omega Chrome Brown PRLL p.a.f. and Metomega Chrome Brown PRLL p.a.f., the products are recommended for use in the afterchrome and metachrome methods or on a chrome mordant. The color is fast to light, washing, and alkaline milling; potting and carbonizing; and cross dyeing in an acetic-acid dyebath. It is also suitable for vigoureux prints.

Circle D-4 on Reader-Service Card

Resin Emulsions Compatible With Other Finishes

A new series of polyvinyl-acetate emulsions especially designed for textile finishing has been announced by Resin Div., National Starch Products, Inc., New York, N. Y. According to National, these ready-for-use emulsions are water resistant and produce clear, tough films possessing good resistance to dry cleaning. The resins show good compatibility with starches, synthetic and natural gums, clays, and plasticizers.

Circle D-5 on Reader-Service Card

Green Lanasyn Dye For Wool

A new Lanasyn product of Sandoz Chemical Works, Inc., New York, N. Y., is reported by the manufacturer to have similar fastness to light, fulling, carbonizing, washing, perspiration, and decatizing as other colors in the Lanasyn series.

Known as Lanasyn Green BL Pat., this bright bluish-green dye extends the line of shades obtainable by this new Lanasyn series of dyestuffs. One of the features of the dye, according to the manufacturer, is its fastness to fulling, which makes it superior to Sandoz's standard Cyanine Green type, Alizarine Light Green GS.

Circle D-6 on Reader-Service Card

Scouring Agent Has Many Uses

Igepon TE-42, a tallow fatty acid product, has recently been marketed by Antara Chemicals Div., General Dyestuff Corp., New York, N. Y. The manufacturer states that this product is stable to acid, alkali, and hard water and is effective for scouring animal, cellulosic, and synthetic fibers. Igepon TE-42 may also be used for kier-boiling cotton fabrics, soaping fast-color-dyed yarns and fabrics, wool raw-stock and piece-goods scouring, and hosiery and pressure machine boil-offs. It may also serve as a detergent-penetrant in bleaching liquors.

Circle D-7 on Reader-Service Card

Anthraquinone Vat Dye For Cotton and Wool

National Analine Div., Allied Chemical & Dye Corp., New York, N. Y., announces an addition to its line of anthraquinone vat dyes. National Carbanthrene Brown ARN Double Paste produces bright brown shades on cotton and rayon. According to the producer, the dye is fast to light and to most wet-processing operations. It may be applied by various impregnation methods or by pressure-dyeing equipment.

Circle D-8 on Reader-Service Card

Chrome Brown Dye For Wool

Two new chrome dyestuffs, known as Omega Chrome Brown PGL p.a.f. and Metomega Chrome Brown PGL p.a.f., recently announced by Sandoz Chemical Works, Inc., New York, N. Y., are homogeneous chrome dyes designed for wool. The producer recommends afterchrome, metachrome, and chome-mordant methods of dyeing.

In addition to being fast to light, these dyestuffs are said to be fast to washing, alkaline milling, potting, and carbonizing. They can be used in stocks that will be crossed dyed and milled.

Circle D-9 on Reader-Service Card

Wetting Agent Has Varied Uses

Hart Products Corp., New York, N. Y., has added Penetron Conc. to its line of wetting agents. Penetron Conc. can be used as a dispersing agent to dissolve dyestuffs; as a wetting agent in rayon, cotton, and acetate goods desizing; and as an additive to the dyebath on all types of machines and on colors where deep penetration and uniformity of shade are difficult to accomplish. It also can be used prior to bleaching and kier boiling.

Circle D-10 on Reader-Service Card

Durable Finish for Failles and Bengalines

Nortex, a durable finish for failles and bengalines, has been announced by Frank Percarpio, president of Northern Dyeing Corp., Washington, N. J.

According to the producer, the finish is water repellent, crease and stain resistant, shrinkproof, and stretchproof; it requires little or no ironing, resists odors and perspiration, and assures a permanent shape.

The Nortex process requires specially constructed machinery, including a super-flash box that produces a temperature of 1,000° F. applied to the cloth in a 6-sec. flash. The operation impregnates the material with a solution and is applicable to all types of fabrics, it is said.

Easy application of fast colors with Du Pont *Capracyl** dyes for wool

The essentially neutral dyeing, metalized Du Pont "CAPRACYL" colors are applied to wool in a short dyeing cycle. They require little or no chemical aids for exhaustion. This means you benefit from savings in time, chemicals, and labor. And the natural strength, beauty, and resiliency of the wool fibers are protected.

Du Pont "CAPRACYL" dyes offer a combination of good wet fastness and excellent light fastness. You'll find them ideal for worsted men's wear, sportswear, auto upholstery, and carpets, and many other fabrics where exposure to light is an important factor.

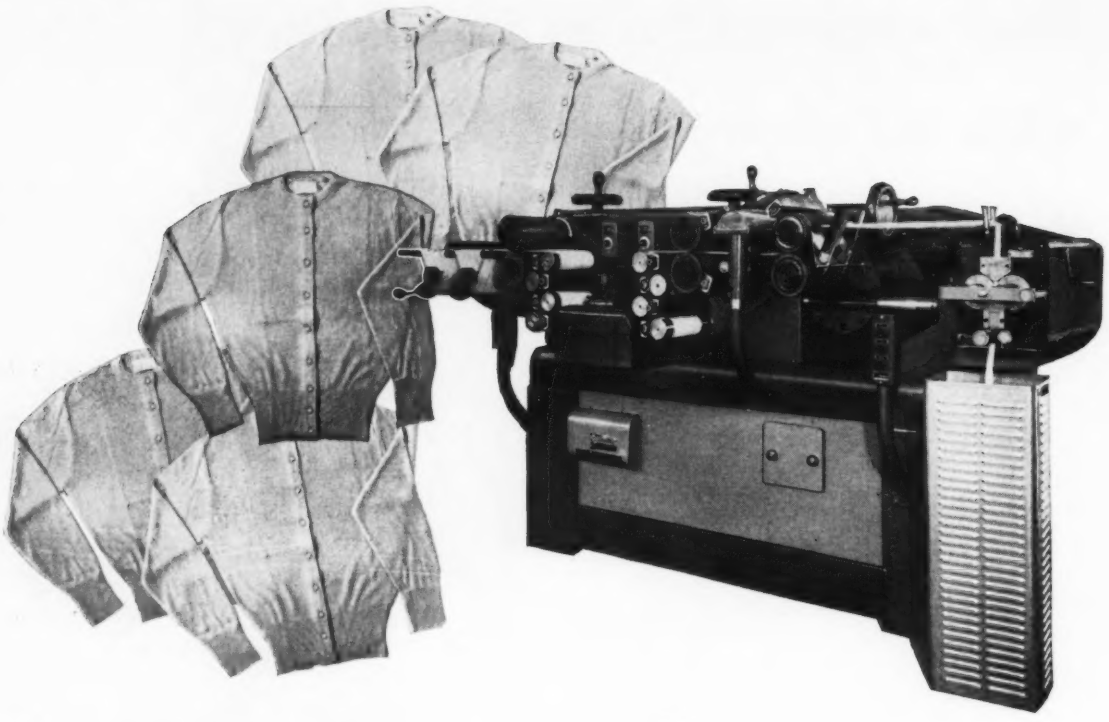
Even on "tippy" wool, the "CAPRACYL" dyes cover and penetrate well . . . produce level dyeings with proper application methods.

Du Pont has prepared a booklet, "THE 'CAPRACYL' DYES," with technical information on the properties and dyeing characteristics of these new dyes. For your copy . . . or for help on *any* dyeing problem . . . write E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Del.

*REG. U. S. PAT. OFF.

DU PONT *Du Pont Dyes*

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*



1 sweater free out of every 5 from a TURBO STAPLER

A Philadelphia sweater manufacturer found it took 25% less yarn per garment when he knitted with Turbo Stapler processed Orlon*. And — the sweaters had greater loft, warmth of hand and luxurious richness. Result—sweaters with greater sales appeal—at substantial manufacturing savings.

It's practically magic what a Turbo Stapler can do for all synthetic fibers. With it, you can change everything except the chemical composition. You can create new yarns with the hand, the luster, the tenacity and the crimp you want. It's all done on one machine, at one time, without skilled labor.

Why not see what a Turbo Stapler can do for your production figures — we'll be glad to give you full information. Write, telephone, or make a personal visit. Do it soon — you'll like the savings a Turbo Stapler will make for you.

Facts About TURBO Tow Processing . . .

LOWER COST

(1) less capital expense for machinery, less space, less skilled labor.
(2) pre-roving operations reduced to a new minimum — drawing can be simplified because sliver is amazingly even and parallel.

VERSATILITY

(1) handles all synthetic tow.
(2) minimum down-time for change over to different fibers, deniers, staple lengths or crimp.
(3) additional end uses for your present inventory through alteration of staple length, filament denier, crimp and tenacity.

EVEN YARNS

(1) sliver is more even — it's made from uniform tow.
(2) no co-terminal fibers — natural staple length variation.
(3) staple length can be controlled to match natural fibers — better blends.

TURBO SINCE 1929

*duPont Trademark

TURBO MACHINE COMPANY, LANSDALE, PENNA., U. S. A.

Makers of Precision Hosiery Finishing Machines — Crimpers — Crimp Setters

LETTERS FROM READERS

What's on your mind?

We welcome your comments. Whether you agree or disagree, with us or anybody else, we will be glad to have you air your views.

Unless you ask us not to, we will use your name and company connection when your letter is printed. If you prefer to have your opinions appear unsigned, we will respect your confidence by using only a set of initials.

Write to Editor, Round Table, TEXTILE WORLD
330 W. 42nd St., New York 36, N. Y.

HOW NOT TO MAKE WORKLOAD CHANGES

Dear Editor:

Up to about 15 years ago, most mills put through workload changes this way:

The payroll department asked the time-study department for a rate on a new yarn number being run on the winders. The overseer didn't tell the timestudy department ahead of time that a new yarn was to be run.

The timestudy department sent out a man to get data for a workload on the new yarn. He went straight to the winder operator—watch and board in hand. He immediately started the timestudy; he might or might not have said "Hello" to the operator.

When he got through, he walked away from the job without telling the operator what he had done. He returned to the office and worked up the rate; then he called the payroll department and gave it the new rate. He sent copies through the company mail to the cost and payroll departments and to the overseer and superintendent.

If the overseer felt good that day, he might tell the operators what the rate on the new yarn was. Of course, by that time the rate had been in effect for about two days, and the operators had been working on a piece rate without knowing what it was. If the overseer didn't feel good that day, the operators found out what the new piece rate was when the paychecks came in.

The new rates were often as well engineered as they are today, but it's easy to see why the methods department found the overseers and operators working against them.

R. G. Carson, Jr.
Associate Professor

School of Textiles
Clemson College
Clemson, S. C.

[*For the right way to make workload changes, see TW, May, '54, p. 67.*—Editor]

A GOOD START FOR BETTER WORKERS

Dear Editor:

Profits depend more on the skill and enthusiasm of employees and supervisors than on machines and processes. Management should devote more than a little attention to training valuable raw material. The length of training time and the method of training will depend on the complexity of the job.

All too often, boys and girls straight from school start in mills at such jobs as cleaning, sweeping, or oiling and then are promoted to more skillful work by seniority. They have to do their learning, without supervision, at any time they can snatch from their normal work. They learn from good, bad, and indifferent operators; and they conspicuously reflect their lack of training when they become full-load operators.

This lack of training and supervision produces a hard core of unsuitable operators who are a liability to any company.

N. H. Pomfret

Hamilton, Ont.

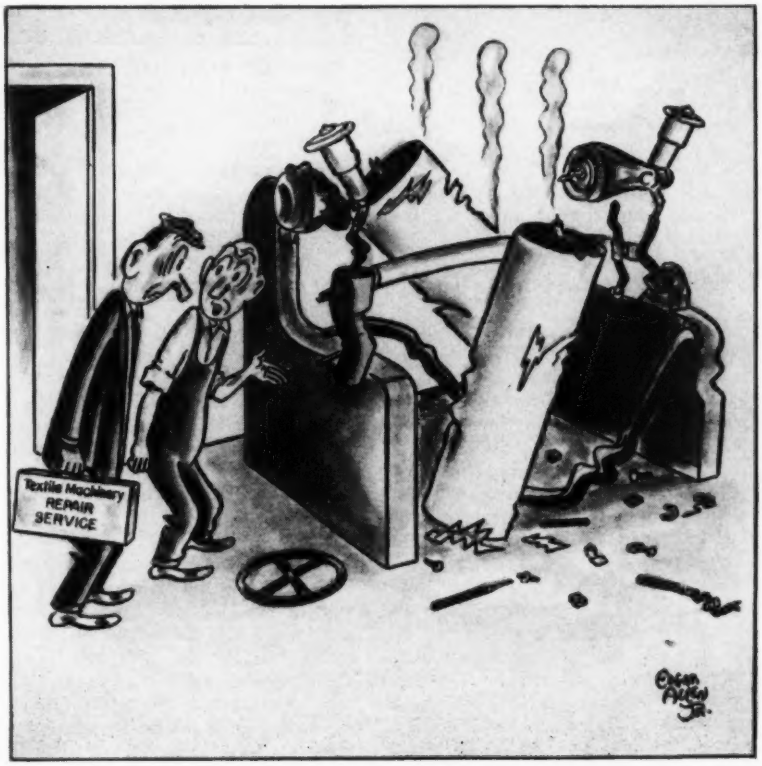
WHO'S STUBBORN?

Dear Editor:

In your column of April, 1954, a letter by Francisco Monsech, Jr., adds nothing to our knowledge of the metric system, nor does it help to solve the problem of a universal system for numbering textile products.

CONTINUED ON PAGE 174

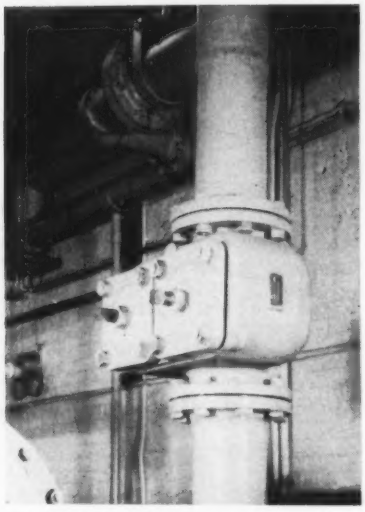
TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*



"All I did was pull out a nep that was lodged"

Kinks AND SHORT-CUTS

Air-Check Valve Cuts Compressor Vibration



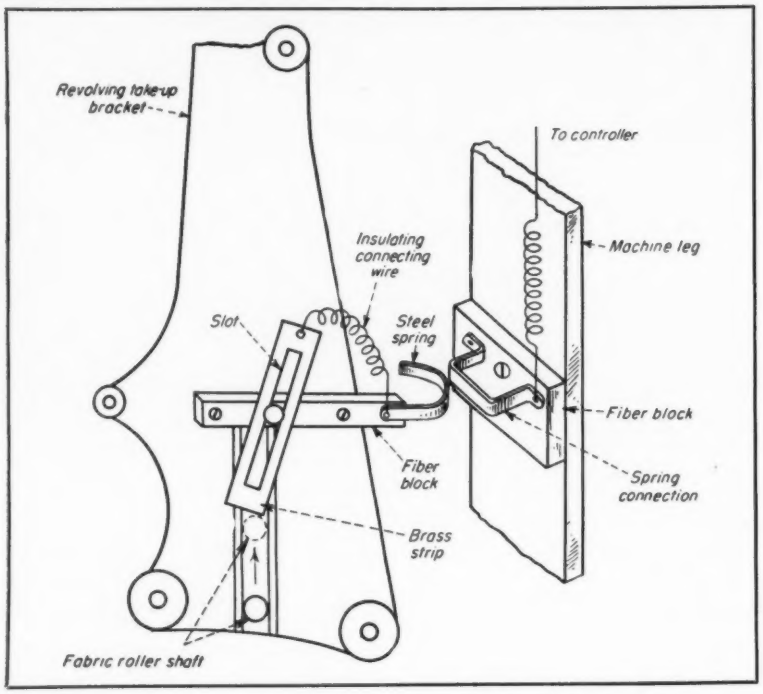
AIR-CHECK VALVE in the discharge line of a duplex air compressor of 960-cu.-ft.-per-min. capacity eliminates harmful vibration.

We had considerable vibration in the discharge piping from our 960-cu.-ft.-per-min. air compressors. Our pipe joints wouldn't stay tight, and vibration was transmitted to the building.

We tried numerous changes of pipe support and anchoring, but we could not reduce this vibration to a satisfactory level. We then installed one 6-in. air check between the high-pressure cylinder and the aftercooler of one compressor. This check, made by Pennsylvania Pump & Compressor Co., reduced the vibration considerably. So we ordered another air check for the other compressor. Now our vibration from pipe pulsation is very low.

We were also able to remove the hand-operated stop valve on the discharge side of the compressor. Starting up and shutting down the compressor is simple now, and we're sure that the compressor is without load during all idle periods. *K. W. Scott, Cleveland, Ohio.*

Here's a New Knock-off for Circular Knitting Machines



ADJUSTABLE BRASS STRIP can be moved to regulate the size of the cloth roll made on circular knitting machines. An electrical connection is made when the steel fabric roll touches the brass strip, and the machine is stopped.

An inexpensive gadget can be made in the mill shop to produce fabric rolls of the same size on Brinton and Supreme machines.

The parts that are needed for the job are a 6x¾x¾-in. fiber block, a 7x1x⅛-in. brass strip, a 3x¾x¾-in. fiber block, a short length of spring steel, and seven small screws.

An inclined slot 1 in. wide and ⅛ in. deep is filed 2 ins. from one end of the long fiber block. A bent spring-steel strip is screwed to the other end of the block. The block is screwed to the plain side of the take-up bracket with the slot facing the center of the machine.

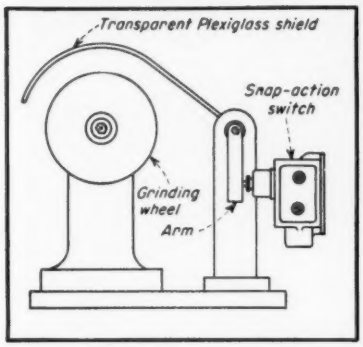
A ¼-in. slot is drilled and filed down the center of the brass strip. (The slot allows for adjustment in roll sizes when the brass strip is screwed to the slot of the fiber block.) A short screw is used because the end must not protrude through the block. A small hole is drilled in the top of the brass strip to receive an insulated wire big enough to make a connection between the brass strip and the steel spring at all adjustment heights of the brass strip.

A 4-in. length of spring steel is screwed to the short fiber block, which is fixed to the inside of a machine leg level with the spring on the long fiber block. A wire is connected from the stop-motion controller or the bottom stop motion to the spring on the machine leg. As the machine turns, the spring on the take-up must touch the spring on the machine leg.

As the cloth roll gets larger, the steel rod that the cloth is wound on rises and eventually touches the brass strip. Contact is made with the floor when the springs touch, and the machine is then stopped. Larger rolls are made by raising the brass strip in its slot.

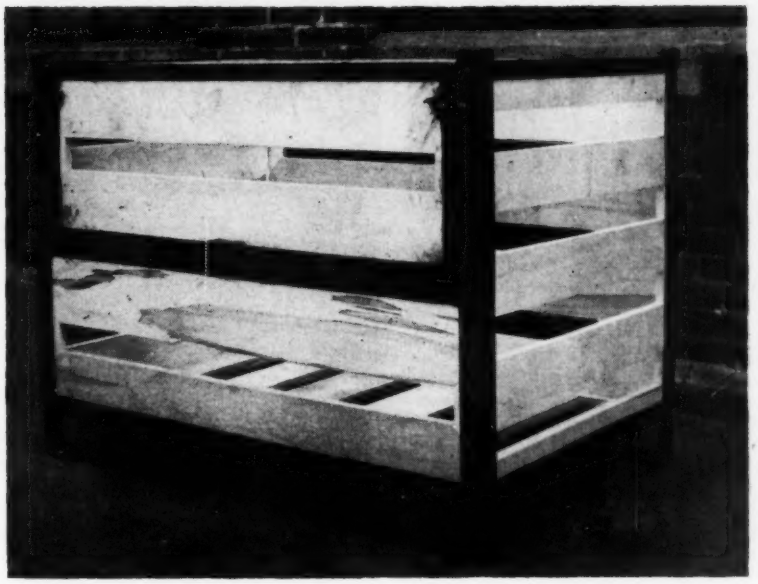
If this attachment is fitted to stationary-head machines, the spring contacts are not necessary and the wire from the controller is connected directly to the brass strip. *Charles Turano, Jamaica, N. Y.*

Can't Start Grinding Until Shield Is Down



SNAP-ACTION SWITCH is normally open, and no power gets to the grinding wheel. When the protective shield is down, however, the arm connected to the shield depresses the plunger on the Micro switch and allows the wheel to be started.

Box With Dropping Side Saves a Long Reach



HINGED SIDE drops halfway down to allow contents to be removed without strain. Same principle can be applied to other types of boxes, trucks, and skids.

Paint Chain Links For Easy Recognition

We use high and low links on our circular knitting machines to produce tuck-stitch effects.

We had trouble keeping these links apart when they were not used; so we painted the low links a bright yellow.

We find that the colored links are helpful to the fixer when chain changes have to be made. *Leonard Mauer, Ft. Meade, Md.*

One objection to box trucks and box skids in the past has been the relatively great difficulty in unloading. Reaching far down over one side, except where box trucks or skids of low capacity are used, can be quite a strain.

Larger-capacity containers with a hinged half side are now being used by some mills. Welded steel framing, with angles at all corners, provides for holding the entire superstructure square whether the dropping side is opened or closed.

Three hinges are used on the side, and the two latches near the top of the skid are so designed that gravity tends to keep them closed. When the side is dropped down, it folds up tightly against the lower half of the skid. *John E. Hyler, Peoria, Ill.*

$500 for Best Kink in 1954

$25 for Best Kink in Each Month

In Addition to Space Payment on Acceptance

You undoubtedly know many Kinks and Short-Cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your Kink may win the $500 check for the best Kink of the year or the $25 check for the best Kink of the month; maybe both!

Send in your Kink now. There is always a contest going on. The more good Kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every Kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your Kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it; we will pay you extra if you do and we can use it.

Look over the Kinks in this and other issues. You will get ideas you can use as well as inspiration for Kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published Kink will be judged impartially by other mill men. In cases of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1954.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred Kinks in each issue. Their votes will select the best Kink, and their decision will be final.

Send Kinks to:
KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

Kinks and Short-Cuts

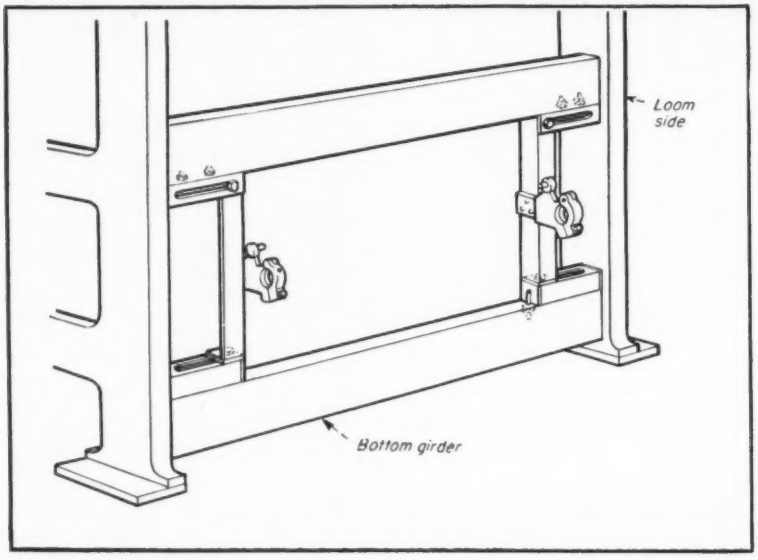
Rack on Scale Platform Simplifies Bobbin Weighing

At Perivale Mills, Greenford, England, a special rack is placed on the scale platform to weigh bobbins. The rack is designed to be used with the bobbin truck from this mill that was previously described [TW, March, '54, p. 158].

The truck shelves slide right onto the scale rack, and one shelf full is weighed at a time. There's no lifting necessary. A book kept at the scale gives the tare readings—rack weight plus the weight of one shelf full of empty bobbins—for the various bobbin sizes. *Clifford T. Bower, London, England.*

SCALE RACK matches bobbin truck to allow shelves to slide. There's no lifting. Tare weights are kept in book at scale.

Put on Beam-Stand Extensions To Run Long and Short Beams



LONG AND SHORT BEAMS can be run on C-4 looms when beam-stand extensions are added to the loomsides and girders.

We use several different lengths of loom beams on our C&K C-4 looms for different widths of cloth. A narrow piece of cloth, for example, generally weaves better from a short beam than from a long one.

But we have run into trouble on short beams. All lengths of beams are supported by beam stands at the loomsides. Narrow beams necessarily have long journals, and these journals bend under full-beam loads. The results are bang-offs, jumping beams, and wavy cloth.

We have made beam-extension stands that now let us run any length of beam without trouble.

First, we cut two 6-in. lengths of 3-in. angle iron and bore two ½-in. holes in one side. The center of the other side is slotted lengthwise for 4 ins. Two holes are bored in each end of the bottom of the top back lengthwise girder, and the two lengths of angle iron are bolted to the girder with the slotted sides away from the loom.

Two 6-in. lengths of 2-in. angle iron are slotted just as the 3-in. angle iron is slotted. A piece of ½-in.-thick rectangular metal stock is welded at each end of the pieces of angle iron to box in the ends. A ⅞-in. loom bolt, with the head cut off, is welded to one end of each piece of angle-iron box. The other end of each angle-iron box has a ½-in. hole bored in it.

A hole is bored in each loomside for a bolt, and another hole is bored in top of the bottom back lengthwise girder for the welded-on bolts. The two pieces of metal are bolted to the girder with the slots up.

Two pieces of 2-in. angle iron are cut long enough to reach from the bottom of the top back lengthwise girder to the top of the angle iron bolted to the bottom girder. Another piece of the ½-in.-thick rectangular plate is welded to one end of each of the two pieces of angle iron. A ½-in. hole is bored in the plates to bolt them to the slotted surfaces of the pieces of angle iron on the bottom girder.

Three holes are bored in the two long pieces of angle iron to hold the beam stands. One angle of the top surface is cut off so that the upright angle iron will fit flush against the back slotted surface of the angle iron bolted to the top girder.

When the beam-extension stands are completed, the beam stands on the loomsides are removed, and the extensions are bolted to the loom with ⅞-in. loom bolts. Then the beam stands are bolted to the extensions.

Beams of several lengths can now be used simply by loosening four bolts and sliding the upright pieces of angle iron in or out. *Andrew J. Poe, Swepsonville, N. C.*

Best-Kink Award for April

Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.

The best Kink for April, according to TEXTILE WORLD reader-judges, was:

"Pneumatic Lap-Pin Puller Simplifies Picker Operation"

By J. R. Wikle, Charlotte, N. C.

Mr. Wikle is being sent a check for $25 with the compliments of TEXTILE WORLD.

We Use a Time Recorder To Check Loom Breakdowns

We pay our weavers by the pick and also pay them for looms stopped for major loom breakdowns. We used to have a lot of trouble keeping up with the time lost by each weaver on each breakdown.

Now we use a time-recording card and punch it on our regular time clock. We usually have several extra cards around that have been punched incorrectly by employees as they check in at the beginning of a shift. We use the old cards in place of new ones.

When a loomfixer goes to a loom flagged by a weaver and finds that the job will require a long time to fix, he punches one of the old time-recording cards in the time clock. Then he lists the following-data on the card: loom number, weaver's name, shift number, loomfixer's name, and type of breakdown.

As soon as the loom is restarted, the loomfixer punches the card in the time clock again. But, if the loom isn't restarted again until one of the following shifts, each weaver's and loomfixer's name is added to the card. When the loom is finally restarted, the card is punched again to show the starting time.

Then the card is given to the weave-room overseer. The record gives the overseer an idea of the time required for each type of major breakdown, and then he can tell if looms are kept out of production too long.

When the weave-room overseer finishes checking the cards, he gives them to the timekeeper. The timekeeper then credits the weavers for the lost production.

Now that we're using this system, weavers are happy because they are sure to be paid for lost loom hours. In addition, we have the record for checking loom stoppage. *Joseph T. Daly, Worcester, Mass.*

Try This Twister Emulsion For Rayon Knitting Yarn

Seconds are often high in knitting mills that use highly twisted filament and staple rayon yarn because the yarn snarls and lacks pliability.

These highly twisted yarns can be made to work better if you apply a coating of emulsion before twisting. The formula is as follows (by volume):

8% hydrogenated sesame oil
4% sulphonated cottonseed oil
0.5% gelatine
87.5% soft water

The yarn is soaked at 125° F. for 20 mins., hydroextracted, and dried at 130° F. for 5½ hrs. Adjustments in the emulsion formula may be necessary to insure that the yarn weight has increased about 8%.

The yarn is then twisted and should be able to take 50 tpi. without difficulty. Immediately after twisting, the yarn is steamed for 15 mins. at 140° F. wet bulb and 134° F. dry bulb.

Yarn treated in this manner has an excellent handle, is free from snarls, and is easy to knit. *M. C. Dutt, Indore, India*

Wheels on Inspector's Chairs

Cloth inspectors who sit down often have to move around quite a bit.

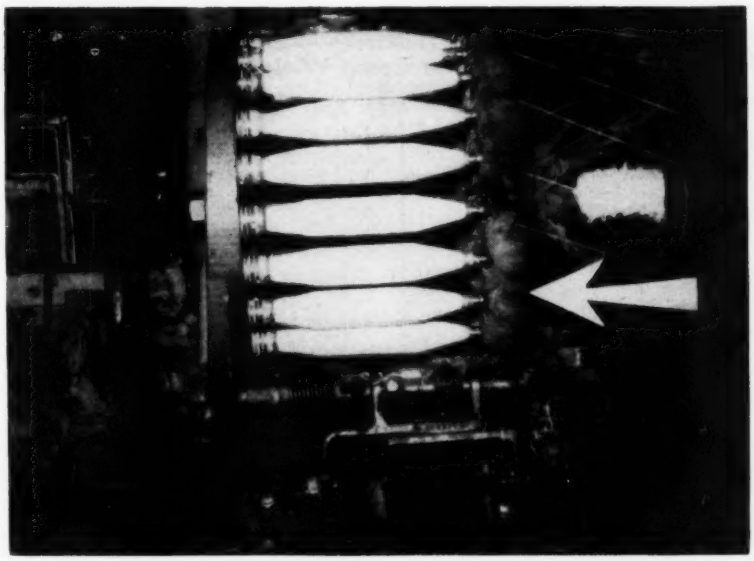
Casters on the chair legs give the inspector more freedom of movement and make their job a little easier. *The Textorian.*

We Use Shuttle Fur To Hold Filling Ends in Place

We were having trouble running rayon filling with cotton warps on cotton-type looms. The vibration of the loom caused the rayon filling to stretch so much in the batteries that by the time the bobbins were in position to be transferred, the ends were so slack they were broken by the picker stick or lay.

This condition caused mispicks and thin places and increased our second-quality cloth.

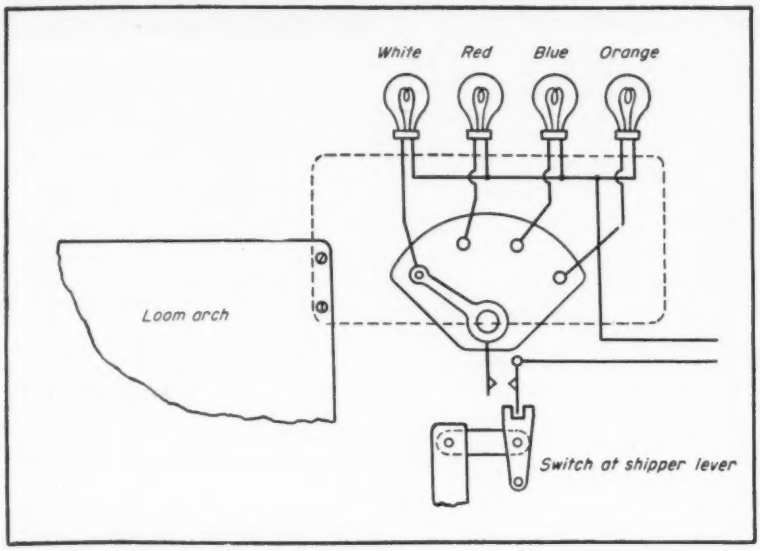
One of our loomfixers, Mr. Berryman, solved our problem by placing a 1-in. strip of shuttle fur around the disks of the batteries. The fur cushions the shock and cuts down on the vibration. Now the filling remains taut in the batteries. Our production is increased, and the quality of our cloth is improved. *Margaret Billingsley, Sylacauga, Ala.*



FILLING IN BATTERY is held taut by a strip of fur glued to the bobbin disk.

Kinks and Short-Cuts

Signal Lights Show Why Looms Are Stopped



FOUR SIGNAL LIGHTS show at a glance why each loom in the weave room is stopped. Weaver lights the lights, which are connected to the warp-stop-motion line.

Weaver-room overseers can check stopped looms quickly in any section of the weave room if signal lights are placed on each loom.

Each of our looms has four signal lights on the arch of the loom: white, red, blue, and orange. The lights are energized by the 12-v. warp-stop-motion line. A switch is connected to the shipper lever, and the white light comes on when the loom stops. When the weaver restarts the loom, the switch at the shipper lever turns the light off.

But when a loom stops and can't be restarted by the weaver, the weaver sets a pointer to turn on one of the other lights. If a loom bangs off or a harness strap is broken, the weaver turns on the red light. Then the loomfixer knows he must repair the loom.

When warps are out, the blue light is turned on. The orange light is used to call the weave-room overseer when he is needed.

By watching the signal lights, the weave-room overseer always knows why his looms are stopped; and he can also spot places where he is needed most because of too many stopped looms. *Minoru Uno, Kyoto, Japan.*

We Use Red Slips To Indicate Low Inventory

To indicate items that are low in our inventory, we have fixed a series of pockets on the front of our spare-parts inventory book. The part number is listed above the pocket, and when the stock of a particular item reaches a minimum list, a red slip is placed in the pocket against the part number.

Our order clerk simply checks the front of the book each day instead of looking through each page in the book. *Dan Singer, Newton, Mass.*

Have You Tried These Safety Ideas?

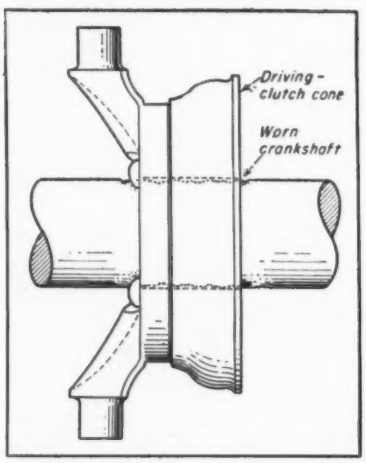
SLOGAN CONTEST: Publish a slogan of the day. Give members of the Safety Committee silver dollars. Ask employees at random for the slogan. If they know it, they get dollars.

SAFETY MATCHES: Conduct a safety slogan contest throughout the mill and give prizes for the best three. Publish winning slogans and names of winners on safety-match folders. The winners get recognition and carrying of safety matches is promoted.

SHIFT CONTEST: Give neckties for the men, boxes of candy for the ladies, for the best safety performance in a contest based on number of safe hours worked on each shift.

CANDY DISPENSERS: Put a series of dime-size stickers, one to a bar, on candy that is dispensed in plant. When an employee gets a complete set that spells out "S-A-F-E-T-Y," give a prize. *National Safety Council.*

Repair Crankshafts in the Loom With Rocker-Shaft Bearings



WORN CRANKSHAFTS underneath the driving clutch cone cause looms to lose speed.

Replacing loom crankshafts because they were worn underneath the driving-clutch cone was getting us down. We had a lot of worn crankshafts on XP-model looms, and we often lost 24 hrs. of production in replacing one crankshaft.

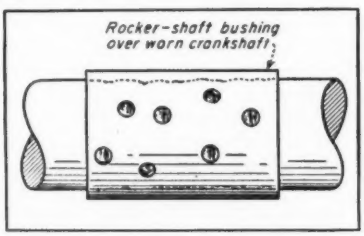
But we have learned to repair the crankshafts in 20 mins. while they are still in the loom. Here's how:

We take worn and discarded rocker-shaft box bushings and bore small holes at random all over the bushings. Then we ream out the clutch cones to fit the outside of the bushings.

A bushing is slid on the crankshaft and a reamed-out clutch cone is placed on the bushing. The bushing turns on the crankshaft and also turns inside the clutch cone.

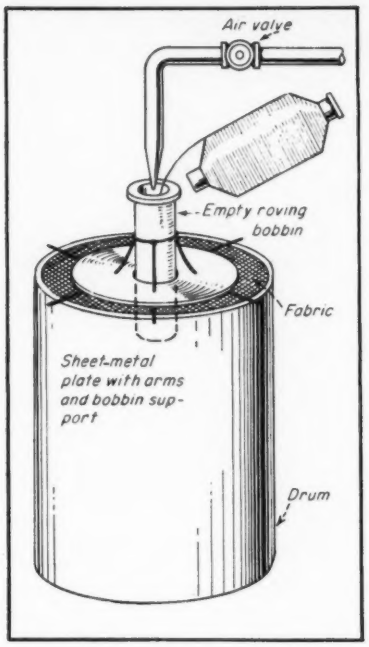
It takes only about 20 mins. to put a bushing on the loom, and the parts that are used are cheap: they cost only 20¢.

There are no disadvantages to this method, and we're saving about $48 every time we use it. *N. T. Hamil, Alabama City, Ala.*



A BUSHING placed over the crankshaft inside the cone corrects the trouble.

Here's Another Variation on Stripping Roving Bobbins



AIR JET catches the roving and pulls it into the drum through the empty bobbin. Fabric over the drum end acts as a filter to let excess air out and keep well-opened waste in. Note how the empty roving bobbin is used as a funnel.

We have an air-operated device to remove defective roving from bobbins when only a few layers of bad work are involved. The method is very safe, and the waste is broken up so fine that it need not go through a waste picker. [This idea isn't new, but some of the details differ; so here it is.—EDITOR.]

The end of a large drum is cut out and covered with a relatively porous fabric. A 6-in. hole is cut in the center of the fabric, and a sheet-metal plate is set on top of the fabric. The plate has a smaller diameter than the drum (our 23-in. drum has a 20-in. plate) and is supported by four arms that extend over the rim of the drum.

In the plate is a hole large enough to hold an empty roving bobbin in a rather tight fit. The bobbin projects about 7½ ins. above the plate and is supported by a collar and four braces welded to the plate.

A compressed-air outlet is centered above the top of the bobbin and points right down into the drum. The outlet is tapered to ⅛ in. at the tip to produce a nozzle effect so that a small amount of air will produce a strong jet.

With the air turned on, the end of defective roving is held next to the nozzle. The air pulls the roving off the bobbin and into the drum, where air currents reduce the strand to fluff. The fabric cover acts as a filter and lets the air out while the fiber stays in the drum.

The speed at which the roving is removed is controlled by the amount of air fed to the nozzle.

When the defective layers have been removed, the bobbin is returned to the spinning room for creeling.

The waste that accumulates inside the drum is light and fluffy and does not require a pass through the waste picker.

The drum is kept in the card room because bad roving is shown to the frame tenders who made it. The device is used only for removing a few layers of bad roving, not for stripping almost-empty bobbins.

Bobbins are held by hand instead of in a jig to minimize waste. As soon as good roving is reached on the bobbin, the operator stops the stripping.

Mechanical Knotter Raises Circular-Knitting Efficiency

We found that it paid off to replace all the yarn packages on our 64- and 96-feed jersey machines at the same time. The cones were made the same size, and they ran out at practically the same time.

We raised our knitting efficiency by supplying our knitters with weavers' knotters. The knotter hangs on the knitter's belt when not in use.

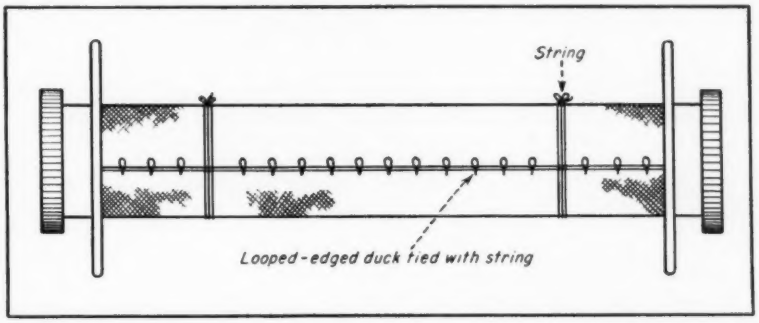
The method works best when one operator looks after machines knitting yarns of the same number. *Dan Singer, Newton, Mass.*

Old Toothbrush Aids Knitter

We found that an old toothbrush is ideal for opening the latches of our knitting machines after a press-off.

We are able to start the machine up quickly with no drop stitches and no damage to the needles. *Leonard Mauer, Ft. Meade, Md.*

Loop-Edged Duck Fabric Starts Warps on Loom Beams



LOOPED DUCK EDGE is placed on the loom beam so that it will be pointing toward the beaming machine. Then warps are always placed on the beam in the right direction.

In beaming warps for our C&K W-3 looms, we use a sheet of duck with attached loops around the barrel of the loom beams to hold the ends from the section beams.

This system works well except that the beamer tenders sometimes start the ends on a loom beam in the wrong direction. As a result, the loomfixer has to change the sprocket beam heads when the warped loom beam is sent to the weave room. When this error occurs a loomfixer's time is wasted, and loom production is needlessly lost.

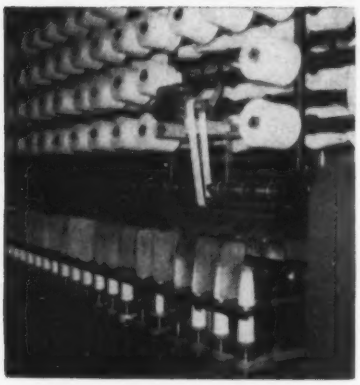
We use a simple method to be sure the warps are placed on the loom beams in the right direction. One edge of the duck has loops attached to hold the warp ends from the section beams. When a warp runs out at a loom, the loomfixer always replaces the looped edge of the duck pointing toward what will later be the loose ends of the full warp beam. The duck is tied to the beam barrel with a piece of string at each end.

When the empty loom beam is to be placed in the beamer, all the beamer tender has to do is point the looped edge of the duck toward the beaming machine, and the warp will be placed on the beam correctly.

This simple practice of tying the duck on the loom beams correctly has saved a lot of our loomfixers' time and has increased our weaving production. *H. J. Armstrong, Yorkshire, England.*

Kinks and Short-Cuts

Twister Device for Samples Saves Many Spindles



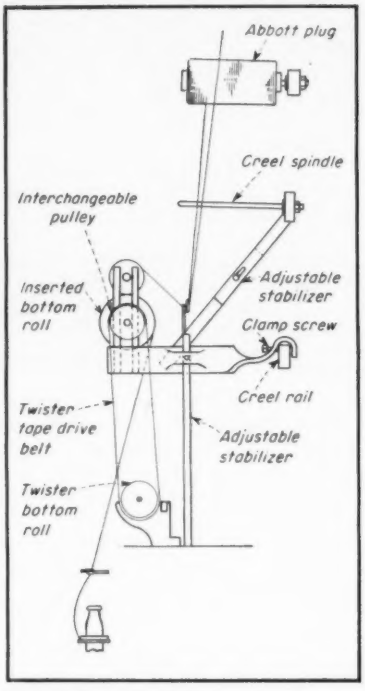
TWISTER DEVICE allows yarn samples to be made with different twists and takes only three spindles out of production.

We are often asked to furnish samples of yarn with twists that are not in production. Formerly, a twister had to be taken from production, and gears had to be changed to twist these samples. Production was lowered and labor costs were high.

A mill-made device solved our problems because only three spindles are taken from production and no gear changing is necessary.

Two rolls driven by a changeable pulley are clamped to the creel rail and adjusted by a stabilizer rod to a higher creel rail. A lower rod rests on the deck board.

The pulley drives the inserted bottom roll and is changed according to the required twist. A hook-fastened twister tape drives the pulley from the bottom roll of the twister.



INSERTED BOTTOM ROLL is driven from the twister bottom roll by a twister tape and a changeable pulley.

We find that the yarn is twisted evenly and the quality is the same as regular twisted yarn. *J. A. Brafford, Hope Mills, N. C.*

Use Steel Thread Inserts On Magnesium Beams

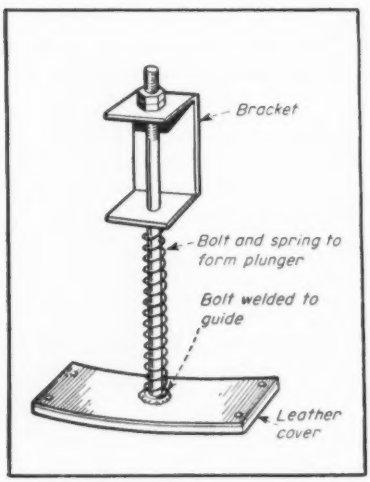
Threads tapped in magnesium will not withstand the wear of inserting and removing flange bolts used to mount the beams. But the tapped holes can be reinforced with helically wound stainless-steel wire thread inserts.

The inserts become an integral part of the beam and have hardness and smoothness sufficient to withstand the recurring wear.

These Heli-Coil inserts are threaded into holes tapped into the magnesium. Drills and taps for the holes are selected according to the insert manufacturer's specifications. After installation, the inserts, having a free outside diameter slightly greater than the hole prepared for them, spring out against the threaded wall of the hole and lock in place.

The inserts provide higher thread strength because they are flexible. They adapt themselves to the female receiving threads tapped into the part and to the male threads on the screw. This action compensates for lead error on the screw or in the part and permits even distribution of load over all engaged male and female threads. Wire thread inserts usually provide 25% greater tensile strength than do unprotected threads tapped into the same material.

The insert has been used in about 600 Hayes beams, all of which are in constant use. Threads in these holes are as good as new. *William H. Maxson.*



SHUTTLE GUIDE with a compression spring eliminates warp break-outs on C&K looms when shuttles are trapped in the shuttle box and under the guide.

Shuttle Guides With Springs Prevent Warp Break-Outs

Shuttles sometimes fail to drive fully into the shuttle boxes on our C&K looms, and the protruding end is trapped under the shuttle guide and causes a warp break-out. This fault is particularly common on pick-and-pick fabrics.

We have made a box guide that compresses when a shuttle is trapped, but the guide still offers protection.

We make a completely new shuttle surface for the guide from a piece of cold-rolled steel 1 in. wide, $\frac{1}{8}$ in. thick, and 3 ins. long. The steel is bent to a slight curve. A hole is bored in each corner of the steel for fastening the leather covering.

Before the leather is riveted to the steel, the head of a long machine bolt is welded to the center of the concave surface.

A bracket is made from a 4-in. length of the same-size steel and is bent in a U. The back surface of the bracket is 2 ins. long, and the two sides are 1 in. long. A hole is bored in the back of the bracket and another hole is bored all the way through the two sides.

A piece of temple spring is cut to fit on the welded bolt. Then the end of the bolt is inserted through the two holes in the sides of the bracket. The nuts are locked together at the end of the bolt.

The bolt in the back of the bracket is replaced in the swing-reed hanger stand.

The inside box guide keeps the new shuttle guide from turning.

Now, when a shuttle is trapped partly in the shuttle box with an end under the shuttle guide, the spring in the guide compresses and no damage is done. *Charles S. Bicksler, Lancaster, Pa.*

NEW—special-industry enclosure!

Patterned after Joint Industrial Control requirements

New I-T-E particle-proof enclosure assures dependable circuit breaker operation in all dust-laden atmospheres:

DUST-TIGHT ENCLOSURE
Solid sheet-steel sides and back with closed welded seams. No holes—no knockouts. Attractive bonderized finish.

EXTERNAL OPERATING HANDLE
New molded handle operates circuit breaker from outside enclosure. Plate indicates position of breaker handle at all times. Handle may be padlocked in either "ON" or "OFF" position. Defeater arrangement allows authorized personnel to open cover with breaker "ON."

DOUBLE-LOCKING COVER ARRANGEMENT

GASKETED COVER
Assures tight seal when cover is shut.

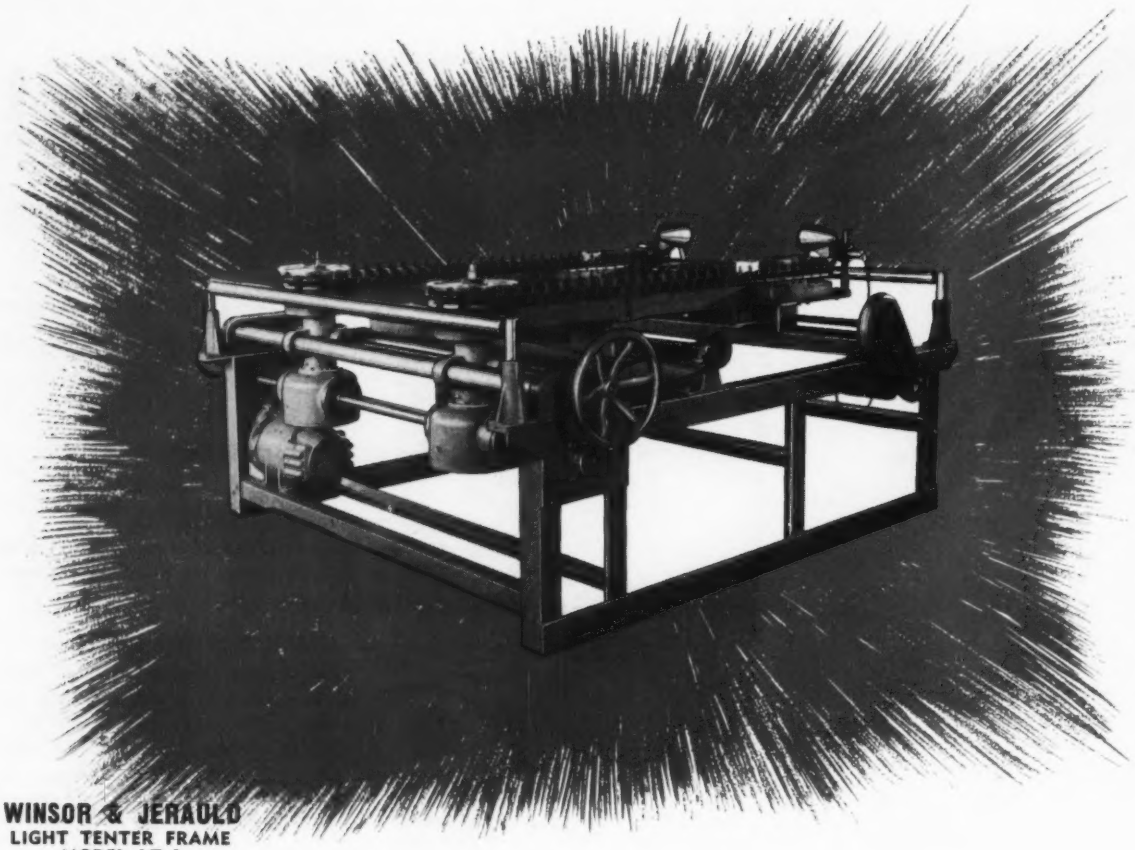
DEPENDABLE I-T-E MOLDED CASE CIRCUIT BREAKER
Thermal-magnetic. Provides positive protection against short circuits and overcurrents. Quick-make, quick-break, trip-free. Assures quick restoration of service without replacement of elements. I-T-E quality design and construction.

AVAILABLE NOW
with I-T-E "E" frame, "F" frame, "J" frame, and "L" frame circuit breakers—in ratings from:
15-600 amperes
125-600 volts a-c
125-250 volts d-c

SEE YOUR LOCAL I-T-E REPRESENTATIVE OR DISTRIBUTOR
or write to *I-T-E Circuit Breaker Co., 19th and Hamilton Sts., Phila. 30, Pa.*

I-T-E

MOLDED CASE CIRCUIT BREAKERS



WINSOR & JERAULD
LIGHT TENTER FRAME
MODEL LT-4

WINSOR & JERAULD takes great pride in presenting a new addition to our famous line of the finest in tenter frames.

The LT-4 was designed as a high speed, rugged, versatile tenter to fill the gap between a standard heavy duty tenter, where its cost and need is not warranted, and a standard cub type tenter which may be too flimsy for some operations.

The framework of the LT-4, which is of heavy fabricated construction, is assembled as an integral unit when the machine is made as a short cub type tenter. When it is made longer, the framework is made in sections similar to the same rigid fabricated construction typical of all WINSOR & JERAULD tenters.

The bevel gears in the machined cast iron gear cases are supported by anti-friction tapered roller bearings, and maximum protection against oil leakage is insured by the use of double oil seals. At all times, the needs of the plant engineer for accessibility and easy maintenance of parts were kept in mind.

The LT-4 may be extended to any reasonable length and be equipped with either straight or joint rails of varying lengths, and adequate provision for expansion has been provided for. It is particularly well adapted for laboratory use.

Our experiment staff of experts is at your service without obligation, and we look forward to serving you from our main plant in Providence, or from Charlotte.

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Outstanding TRADE LITERATURE *Free for the Asking*

NO REPEATS . . . Listed here for June are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

A synthetic-fiber crimper is described in a bulletin from Turbo Machine Co. The machine crimps nylon and other synthetic fibers at 350 ft. per min. It occupies only 18x20 ins. of floor space, is 54 ins. high, and easily fits into production lines. **(F-1)**

A filling straightener is described in a bulletin from R. J. Dealy & Sons. An electro-mechanical device brings the warp and filling threads square and corrects distorted filling in cottons, rayons, woolens, and worsteds. The machine can be fitted at the entering end of a tenter. **(F-2)**

A single-cylinder double-lift cam dobby with a perforated paper pattern is described in a brochure from Staubli Bros. and Co. The machine allows complicated patterns with long repeats to be woven. One yard of paper pattern is equal to 300 picks, and patterns can be made cheaply. **(F-3)**

A raising machine is described in a pamphlet from Textile Machinery Import Co. There is an unlimited non-graduated control. The pile and counter pile can be changed to a felting motion in a few moments. **(F-4)**

A rug-filler machine that produces 2,520 ft. of covered filler core per hour is described in brochures from Fidelity Machine Co., Inc. The machine employs long and short latch needles to knit a cover that makes many color combinations in a locked stitch. **(F-5)**

A sectional warper that winds only 1½ yds. on the beam when stops occur in warping at 500 yds. per min. is described in a pamphlet from N. V. Machinefabriek L. Te Strake. The warping speed is constant, and the reed stays at the same level as the yarn on the beam. **(F-6)**

Rope, cordage, twine, and thread twisters are described in a brochure from Haskell-Dawes Machine Co., Inc. The double-head and single-head former, twister, and buncher operate at high speed with a precise-balanced twist. Both heads are individually operated. **(F-7)**

A new continuous peroxide-bleaching range is described in a catalog from Rodney Hunt Machine Co. A comparison of continuous peroxide bleaching and kier bleaching is presented to show how the continuous system can save water, steam, time, space, chemicals, and labor. **(F-8)**

A selvage-printing machine is described in a bulletin from The Trumeter Co. The machine prints gold or colored lettering by a heat process. It will print on the finest silk or the coarsest cotton. The production is about 40 yds. per min. **(F-9)**

Boarding and preboarding machines are described in a catalog from Turbo Machine Co. Production figures are given for various time cycles. The operator's production on the preboarder is 150 doz. pairs daily, and daily finish-boarding production is 250 doz. pairs per two operators. **(F-10)**

AUXILIARY EQUIPMENT

Spinning-frame cleaners and filters are described in a catalog from Stellite American Corp. The pneumatic suction of ends down increases production from 5 to 15%, allows about 30% more spindle assignment, saves raw material, eliminates scavenger rolls, and improves the air condition. **(F-11)**

Cloth-guiding units are described in a brochure from Automatic Web Control Mfg. Co. The pneumatically piloted, hydraulically actuated type guides any kind of material, handles any amount of correction, and has an automatically adjusted correction speed. **(F-12)**

Slasher drives with multimotors are described in a pamphlet from Westinghouse Electric Corp. The new construction cuts installation expense, the magnetic amplifier reduces maintenance, less time is spent in changing beams, and yarn tension is held constant. **(F-13)**

A pilling tester is described in a leaflet from Custom Scientific Instruments, Inc. The tester uses a rubbing motion to produce pills. Two rubbing surfaces are provided, one with cellulose sponges and the other with a nylon brush. Procedures for various fabric types are given. **(F-14)**

Textile microscopes are described in a catalog from American Optical Co. These microscopes are used for identi-

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Reader Service (Continued)

fication of fibers in blends, determination of quality in wool and cotton, detection of impurities, counting of filaments, and measuring denier. **(F-15)**

A loom switch is described in a folder from Arrow-Hart & Hegeman Electric Co. The switch can be used to control single- or multiple-shuttle looms. The switch is enclosed in a lintproof enclosure and has push-button control. **(F-16)**

Cotton warper beams with a three-point support for the beam head are described in a bulletin from U S Bobbin & Shuttle Co. The head is bolted with tie rods, which are firm and flush against the shoulder. **(F-17)**

Cloth winding is the subject of a bulletin from Hobbs Mfg. Co. The winders described have a 10 to 1 ratio; that is, a 3-in. roll can be built up to 30 ins. with the same tension all the way through. All types of materials can be wound, and many textile applications are found. **(F-18)**

Radiant burners for drying textiles are illustrated in a pamphlet from Red-Ray Mfg. Co., Inc. The heater can apply heat to both sides of the material, can be mounted under a tenter frame, on a cotton slasher, and can be used for singeing. **(F-19)**

Uptwister spindles are the subject of a story in "Leesonia Reporter" from Universal Winding Co. A trial installation of roller-bearing spindles showed a 33⅓% increase of twister speed. Oiling maintenance was cut by 50%, and the power saved was 10 to 36%. **(F-20)**

A homogenizer automatic recording pressure controller is described in a pamphlet from Manton-Gaulin Mfg. Co., Inc. The control gives constant uniform homogenization, saves labor costs, gives a permanent 24-hr. record, and improves homogenization. **(F-21)**

Textile-mill automatic cleaners are described in a bulletin from American Monorail Co. The equipment is designed to prevent fly and loose lint collecting on machinery, walls, ceilings, and pipes. The cleaner is self-propelled and sends swirling air currents down and across the machine. **(F-22)**

Textile measuring machines that measure cloth, carpets, ribbons, and tapes are described in a catalog from Trumeter Co. One firm saved $15,000 in 12 months by installing the measuring machines, which can be fitted on the left or right of the inspecting machine. **(F-23)**

SUPPLIES & CHEMICALS

Belt dressing that is sprayed on from the container by pressing a button is described in a leaflet from Graton & Knight Co. The dressing can be used on flat, V-, and round belts while they are in motion; and belts in out-of-the-way places can be easily reached. **(F-24)**

Machine mounts that reduce noise, keep floors in better condition, and allow machines to be placed where you want them are described in a bulletin from The Barry Corp. A built-in leveling adjustment allows heavy machines to be installed and leveled in a short time. **(F-25)**

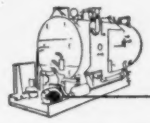
Vibration analyzers are the subject of a brochure from International Research & Development Corp. When the vibration pickup is placed on a suspected machine, the stroboscopic lamp firing at the same frequency as the speed of the faulty part freezes the motion of the part. **(F-26)**

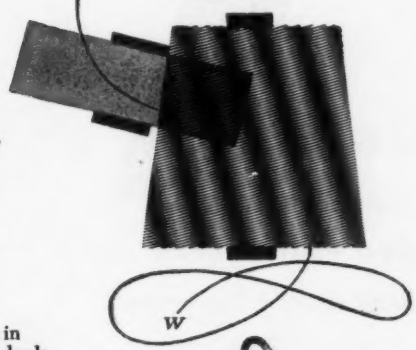
A durable finish for cotton, rayon, synthetic, or blend fabrics is described in a bulletin from American Cyanamid Co. The finish imparts durable crease and wrinkle resistance, water repellency, and soil and spot resistance and provides long wear and superior hand. **(F-27)**

A soap and synthetic detergent buying guide is obtainable from Colgate-Palmolive Co. The guide includes cleans-

THE MARK OF AN EXTRA DEPENDABLE TEXTILE MACHINE

ED ELECTRO DYNAMIC





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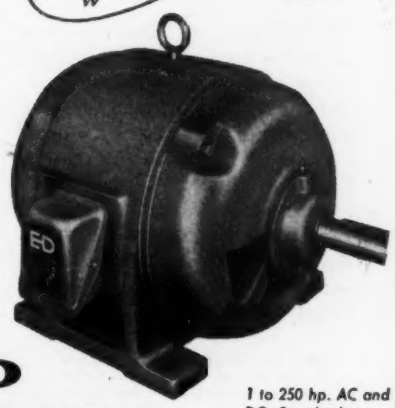

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the helping hand
to better weaving

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Check Straps
give you checks
that don't bounce!

Flexing back and forth twice a second — hour after hour — these straps *cushion* the picker stick . . . help bring the shuttle to a *smooth* stop without shock or kick-back.

That's because G&K Orange® Line Straight and Curved Check Straps are made of Hairitan® Leather — famed for its tough fibre structure, its *live* resiliency — and its ability to perform uniformly for years.

FREE CATALOG: Shows the great Orange Line of Textile Leathers for weaving — also Aprons and Tapes.

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TEXTILE LEATHERS

Reader Service (Continued)

ers and a variety of industrial bulk products. It describes usage, technical service, and other details. **(F-28)**

Alcohols are described in a book from Carbide & Carbon Chemicals Co. Uses and suggested applications for 20 alcohols, their physical properties, specifications, test methods, and a list of selected references to these alcohols in the technical literature are included. **(F-29)**

Ethylene oxide, ethylene glycol, and diethylene glycol are described in a bulletin from Allied Chemical & Dye Corp. Diethylene glycol is used as a lubricant and a softening and hygroscopic conditioning agent for cotton, rayon, and wool. Physical properties and analytical procedures are given. **(F-30)**

ENGINEERING AND MAINTENANCE

A vertical lift conveyor that lifts materials to 20 ft. is described in a bulletin from The Rapids-Standards Co., Inc. The capacities are 300 lbs. at 30 ft. per min. or 800 lbs. at 15 ft. per min. The lift is for raising boxes, crates, and bags where an inclined conveyor can't be used. **(F-31)**

Continuous boiler blow-off heat-recovery equipment is described in a bulletin from Graver Water Conditioning Co. A method of determining the savings realized by the system is described, and the calculations are given. **(F-32)**

Centrifugal refrigeration condensers and coolers are included in a catalog from Worthington Corp. The liquid-cooling systems have 150 to 2,600 tons capacity. Compressors, centrifugal pumps, multi V-drives, and steam power-plant equipment are also listed. **(F-33)**

Automatic controls for heating and air conditioning are described in a catalog from Minneapolis-Honeywell Regulator Co. What makes automatic air conditioning installations successful is discussed, and various engineering data are given. **(F-34)**

Industrial oil and gas burner equipment is described in a brochure from The Engineer Co. Liquid-fuel atomizers, gas burners, air registers, and fuel-heating and pumping sets are described and illustrated. **(F-35)**

Sash maintenance is the subject of a brochure from The Tremco Mfg. Co. Caulking and glazing, painting rusted metal, and sill restoration are discussed. Subjects such as mastic glazing versus putty, how windows are installed, and how sash trouble can be eliminated are explored. **(F-36)**

A maintenance control system is described in a folder from Victor Adding Machine Co. Multiple-copy forms visualized on job-assignment boards, planning boards, and other equipment provide controls with little paper work. **(F-37)**

Mercury switches are listed in a catalog from Minneapolis-Honeywell Regulator Co. Standard switch designs for a.c. or d.c. switching applications that provide low force and tilt motion are listed. **(F-38)**

Continuous power conveyors are described in a catalog from Richards-Wilcox Mfg. Co. Engineering drawings with actual dimensions of zigzag and safe-rail tracks are included. **(F-39)**

GENERAL

A tank-capacity computer is obtainable from The Hauser-Stander Tank Co. This handy little gadget shows at a glance the capacity of rectangular and round tanks. Other useful information on tank capacities is also given. **(F-40)**

A yarn-number indicator is obtainable from Whitinsville Spinning Ring Co. The indicator gives equivalent yarn numbers in the cotton, worsted, woolrun, and denier systems. **(F-41)**

An analytical balance that has no weight-handling system is described in a bulletin from Fisher-Scientific. The weight of the sample can be dialed in

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G&K
Leather Belting
wraps the pulleys
for more
production-power

It Grips — Leather's resilient, frictional surface grips the pulley face, causing belt and pulley to move as one power unit.

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Catalog 101 shows RESEARCH®, HEART OAK and SPARTAN® Leather Belting — also special belting for Stripper, Spindle and Universal Winders. It's free.

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SINCE 1919

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20 secs. There is a single pan, the reading is direct, and the instrument is easy to use. **(F-42)**

Steel strapping for packaging is described in a catalog from Stanley Steel Strapping Div. A new strapping machine that gives higher production-line speeds because it reduces movements, time, and fatigue is described. **(F-43)**

Textile-plant building is discussed in a pamphlet from The Kuljian Corp. The services offered are a choice of engineering or construction alone or engineering and construction under a single contract. Five continents are served. **(F-44)**

"MTM Standards" is the title of a book dealing with the fundamentals of methods-time-measurement in the needle trades from Singer Sewing Machine Co. The development of effective methods in advance of production, establishment of time standards, and other information are given. **(F-45)**

A laboratory for web processing is described in a bulletin from John Waldron Corp. Pilot-plant equipment is available to prospective customers for product development to determine the suitability of machinery for manufacturing or converting. **(F-46)**

Portable scales are described in a bulletin from Toledo Scale Co. Dials of 125, 250, 500, 750, 1,000, and 2,000 lbs. are available. The dial may be installed in one of eight different positions. Full-height and bench-height models are shown. **(F-47)**

A roller printer for marking is described in a pamphlet from Algene Marking Equipment Co. The device weighs only 8 oz., stamps with one motion, can be used on any surface, and is used for marking handling instructions, trademarks, addresses, and lot numbers. **(F-48)**

Plant layouts are described in a brochure from Visual Plant Layouts, Inc. The brochure discusses why three-dimensional layouts are needed, and illustrations of typical right and wrong layouts are given. **(F-49)**

A stenographic system is described in a bulletin from Talk, Inc. After a few weeks of self-instruction, speeds in excess of 200 words per minute are average. The device weighs less than 1 lb. **(F-50)**

Pointers for Supervisors

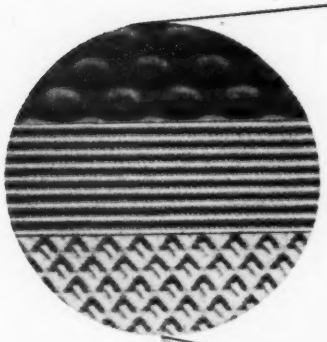
CONTINUED FROM PAGE 137

the employee, in the future, to bypass you in favor of management higher up the line that will take responsibility and, as far as the employee is concerned, has the necessary authority.

6. Don't make promises you can't keep.

Good employee relations have more than once foundered in the wake of broken promises. It is a basic rule that a supervisor should not commit himself to any obligation to any employee that he is unwilling or unable to carry out. Nothing can destroy confidence more quickly or more completely.

Out of a desire to settle a complaint satisfactorily, a supervisor may occasionally promise to take action in the future that is not appropriate



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Monsanto's THREE-POINT SERVICE

1. *The right resin* for your embossed effects and crease-resistant applications. Melamine or modified urea . . . plus a series of three "AC" catalysts to meet your exact curing requirements.

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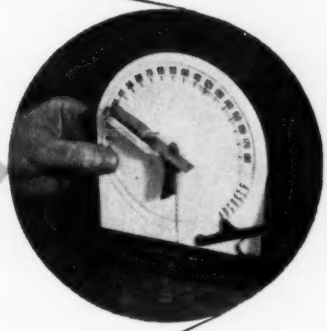


2. *Complete evaluation and development* facilities . . . including the *first* lab-scale embossing machine. Shown here—Monsanto's wrinkle meter measures crush resistance.

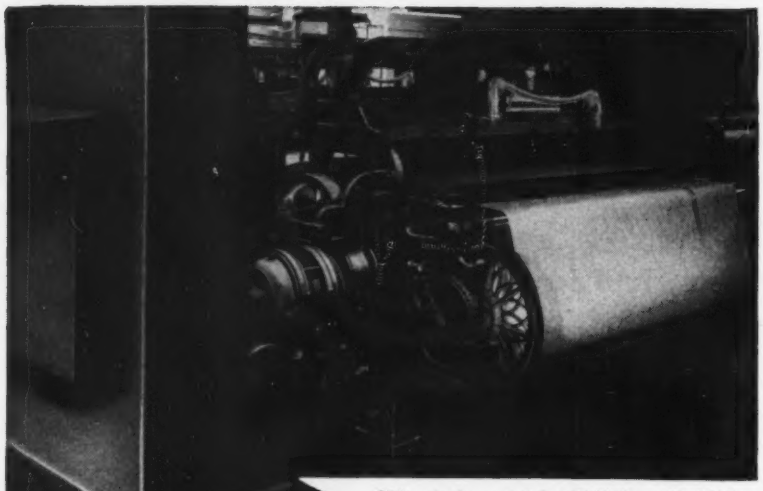
The secret of success in any embossing operation can be stated very simply—use the *right resin* in the *right way*. And to help you do just that—as quickly, easily and profitably as possible—Monsanto has made its Three-Point Service available.

As a pioneer in this field, Monsanto combines a wealth of application experience with highly advanced resin technology . . . newest example of which is Resloom E-50, a modified urea resin with marked advantages in deep embossed, Schreiner and glazed applications.

To get full information on Monsanto's broad line of thermosetting resins . . . and to enlist the expert assistance of Monsanto's trained sales and technical personnel . . . all you need to do is call, wire or write MONSANTO CHEMICAL COMPANY, Springfield 2, Mass.

Resloom: Reg. U. S. Pat. Off.

3. *Experienced technical personnel.* Monsanto people, both in the field and in the laboratory, have had years of specialized practical experience.



C&K woolen loom mounted on UNISORB . . . without bolts or lag screws, without floor damage.

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ELIMINATES FLOOR DAMAGE

REDUCES INSTALLATION COSTS

WITH

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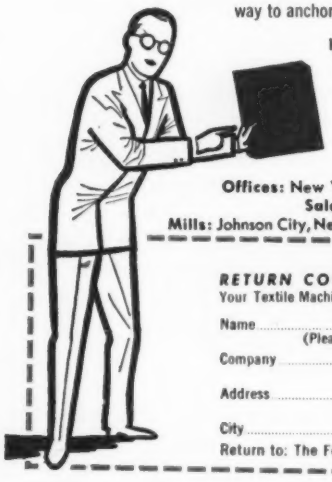
MOUNTINGS

As one mill man said: "It's easy to reposition machines mounted on UNISORB. And it saves the floors. We sometimes move 100 or more looms at a time."

You use UNISORB without bolts or lag screws, without drilling floors. You simply cement the pad to the floor and the machine. Let it set overnight, and you've eliminated 60% to 85% of the noise and vibration transmitted by machines. Or, for machines that do not require shimming, you can use UNISORB precoated with adhesive.

There's a grade of UNISORB for practically every textile machine. Return the coupon for complete information about this economical way to anchor your machines.

Look for the red center and UNISORB brand mark



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(Please Print)

Company .....

Address .....

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now. Having thus salved the employee's feeling, the supervisor will make a serious error if he proceeds to forget the promise. The employee won't. The employee is looking to the supervisor to carry out that obligation and will be virtually certain to remind the supervisor if he fails to produce. Then, if it turns out that the promise was an empty one, the supervisor will simply have postponed an issue, and at the same time, will have damaged the confidence between the employee and himself.

There is nothing especially novel in these suggestions. In the last analysis, the most important consideration is the supervisor's recognition that an employee with a complaint *believes* that he has been injured in some way. Beliefs are compounded of logic and emotion. The supervisor's actions in the entire process of treating a complaint should take into account the fact that emotions have an integral part. Therefore, the supervisor should be acutely aware of the employee's feelings during the steps necessary to the handling of the complaint.

Round Table

CONTINUED FROM PAGE 157

Mr. Monseeh appears to believe that Mexico has used the metric system of weights and measures since it was invented. The facts are that Mexico legalized the metric system in 1862, 61 years after its adoption by France. In 1895, Mexico was compelled to enact enforcement laws, 94 years after France had legalized the metric system in 1801.

Mr. Monseeh wades into muddy water when he depicts the U.S.A. as being too proud to adopt a foreign system of weights and measures. Matters are not improved when he states that the U.S.A. is being regarded "by all other nations as a backward and stubborn people." These remarks are far removed from weights and measures.

Mr. Monseeh says that the adoption of a universal numbering system would not involve great loss. . . . Those of us who have not embraced metric units say that any benefits derived depend on what system is adopted. . . . We do not think that the metric system is the answer to our problems.

SQUIRE BLACKSHAW

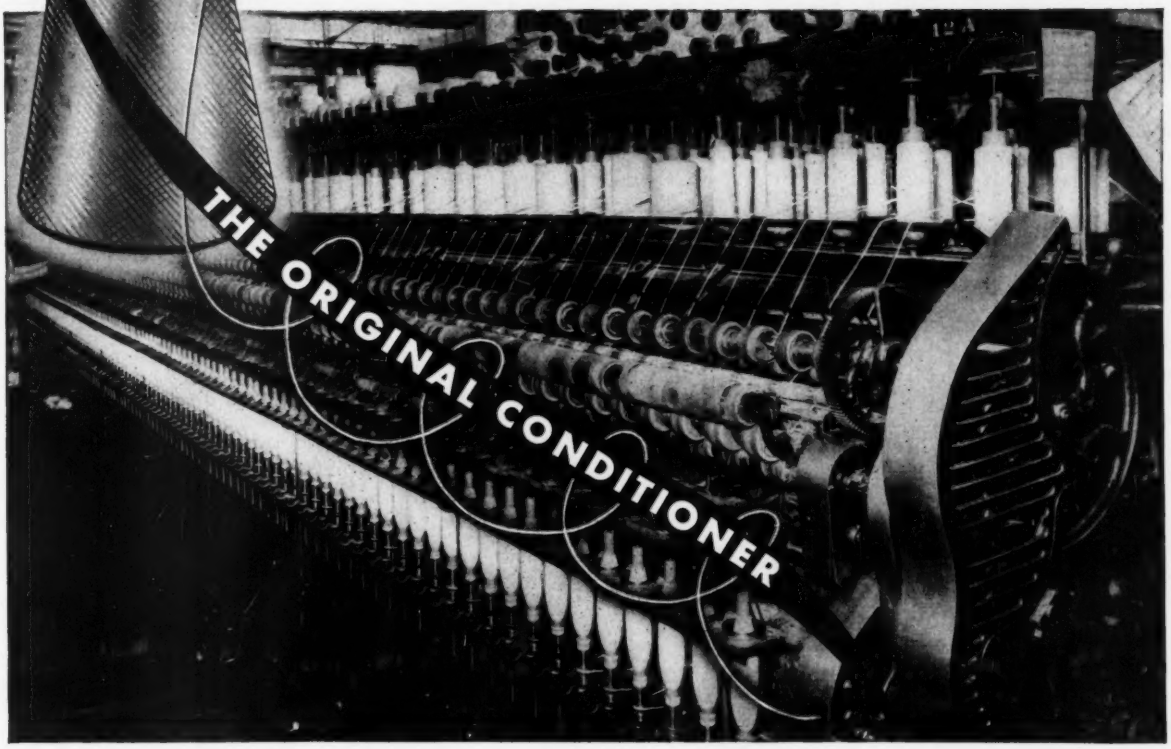
Montreal, P. Q.

SECTIONAL INTEREST

Dear Editor:

Mill management generally has accepted the principle of community interest and pride as a means of keeping workers reasonably contented with their jobs. Most people agree that efforts along this line have proved profitable from the standpoint of employee efficiency, reduced labor turn-

Specify MINEROL



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Our Laboratory Facilities are always at your disposal

IN THE opening, picking, carding, and spinning operations — maximum efficiency demands flexibility of fibres — both natural and synthetic. And that is the very function MINEROL performs so satisfactorily.

MINEROL not only fits in with modern methods of humidification used by the Textile Industry but actually augments and transcends them. For MINEROL stabilizes processing conditions two ways — (1) by retaining moisture and (2) by lubricating fibres.

As a result, scores of case histories prove that MINEROL not only cuts costs and eliminates waste in time and material, but actually pays for itself in increased production. Better Employee Relations result from reduction in card waste and "fly".

If you would like complete information on MINEROL,—let us know the type, grade, and staple of the fibres you use, whether the fibres are to be carded or combed, and what type of opening or picking equipment you employ. With this information in hand — we'll do the rest.

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over, and less feeling of unrest both individually and collectively.

Now it appears that the next move may quite logically be for mill management to look a little further than the community and carry on a similar program covering the section of the country where the mill or mills are located. With easier access to transportation, competition between sections for the best workers can no longer be ignored.

An awareness of the problem is more important than a willingness to spend money on the project. Revived interest in local history of the section, publicity of important points within easy week-end driving distance, promotion of facts and figures to indicate the productive capacity of surrounding territory, historical and future significance of local and neighboring counties—these form the groundwork for proving the mill location has as much to offer as any other part of the country.

Personnel departments, foremen, employee publications, and mill-sponsored activities can all be used to strengthen sectional interest and reduce competition for the finest workers. However, little can be done until management understands the situation and okays the new slant.

GEORGE M. DODSON

Harrisburg, Pa.

Thread-Stock Control

CONTINUED FROM PAGE 115

reorder point is figured out, following the same pattern as with finished goods, and process orders are made out as soon as the stock is reduced to the established figure.

Excessive stock should not be carried as dyed yarn, because the yarn is a definite color and must be disposed of as such unless overstocked shades are redyed. Redyeing is costly and does not improve the texture of the yarn.

Stock More Gray Than Dyed Yarn

So another inventory control is set up before dyeing. Since this gray yarn will be used for all colors and all put-ups, the stock must of necessity be larger than at dyed-yarn storage. We are now dealing with the total requirements of a particular yarn.

If, for instance, the average weekly need of one yarn size and ply is 4,000 lbs., a three weeks' stock, or 12,000 lbs., should be on hand at all times and the same method of control is used. As the yarn is drawn out for dyeing and the reorder point is reached, the necessary process order is made out calling for a certain number of warps to be mercerized, or mercerized and bleached, wound onto springs, or made up into skeins and put into the gray-yarn stock.

Back of the gray-yarn stock is the gray-warp stock. This inventory is

Hyatt's New Line of Dual-Purpose, Self-Aligning BARREL BEARINGS!

Always within easy reach . .

Got a bearing problem? Just reach for Hyatt's new Barrel Bearing Catalog! This is one catalog engineers have been waiting for, because it's essentially *a guide to lower maintenance costs!* Barrel Bearings are not only dual-purpose in design; they're also *self-aligning*. They operate with full efficiency under misalignment conditions which cause excessive wear in ordinary bearings. If *your* job involves bearing specifications, make sure you have Hyatt Catalog No. B-154. It puts a complete line of Barrel Bearings right at your finger tips. Write to Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

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where Willing, Intelligent Labor is Plentiful!

Here in the Southeast is a vast, almost untapped pool of willing, intelligent workers, skilled and unskilled, ready to do a day's work for a day's pay. Just one of the reasons so many industries are moving Southeast where they can compete better in this rich market of 28 million people.

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The resources are here: Ample, low-cost power; varied raw materials; mild climate; plenty of water; fast, dependable transportation; and cooperative local and state governments. The market is ready-made: since 1940 income in the Southeast has increased by over 310% (National increase 236.7%). For your every financial need, here is a bank that will help find the location best suited to your operation, a bank that will finance your re-location . . . The First National Bank of Atlanta.

Experienced Industrial Location Specialists are available to do your spadework. They are ready to start this minute searching for the site you need to operate more profitably.

Write today. All inquiries held in strictest confidence. *Address Business Development Department, The First National Bank of Atlanta, Atlanta, Georgia.*

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controlled by the spinning budget, which is determined by the normal weekly requirements of each yarn number. A control is kept at this point, and if the gray-warp storage reaches the inventory limit, the spinning budget must be changed unless stockpiling is advisable at the time. However, usually when one number is stockpiling, another number is running behind demand, and it is possible to make a change in spinning. Changing spinning assignments is common in thread mills, and it is certainly better than excessive inventories.

Since errors in keeping records and yarn handling occur, regular checks should be made. At least twice a year, every shade of every put-up should have a physical count and a comparison with the book records. If the first count does not check, a second count should be made; if the second count is the same as the first, the book records should be adjusted accordingly. As a rule, these differences are minor; but if they are not, a careful check of postings, etc., should be made before an adjustment is made.

These checks will keep the book records in agreement with the actual inventory; and at the end of the year, the book records can be used instead of taking an actual physical inventory at these various stages of manufacture.

Exploring the Community

CONTINUED FROM PAGE 139

the event was held in the Terrace Ballroom of the Tutweiler Hotel in Birmingham. There, work, as symbolized by the farmer and the mill man, was honored jointly with glamor, symbolized by the Alabama Maid of Cotton, whose annual program is also sponsored by the Alabama Cotton Manufacturers Association.

Chief speaker of the occasion was Hugh Comer, chairman of the board of Avondale Mills, who has crusaded tirelessly for years for better community understanding through programs of mutual community interest.

All the hard work and all the celebration were summed up in the words of one extension service director who said to the group, "You didn't do all this in one year. It took years of good living to create the desire to be good neighbors and to work together for the betterment of your community."

This real grass-roots, statewide community-relations program has made Alabama a better state, textiles a better industry, and farm areas better places in which to live.

ANOTHER PROFIT-MAKER from U. S. TEXTILE

a new, low-cost HEADLESS PACKAGE twister

with new shock-proof traverse motion

available with *stationary mandrels to handle paper tube packages!*

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JUMBO DOUBLE-DECK TWISTER

A NEW, NARROW-WIDTH COMBINATION MACHINE that builds over-wind or under-wind packages from STRAIGHT, CONICAL or BOTTLE-TYPE SUPPLY PACKAGES! Here's a twister that gives you low first cost, low operating cost and fast write-off!

the new SHORT-CUT METHOD pair!

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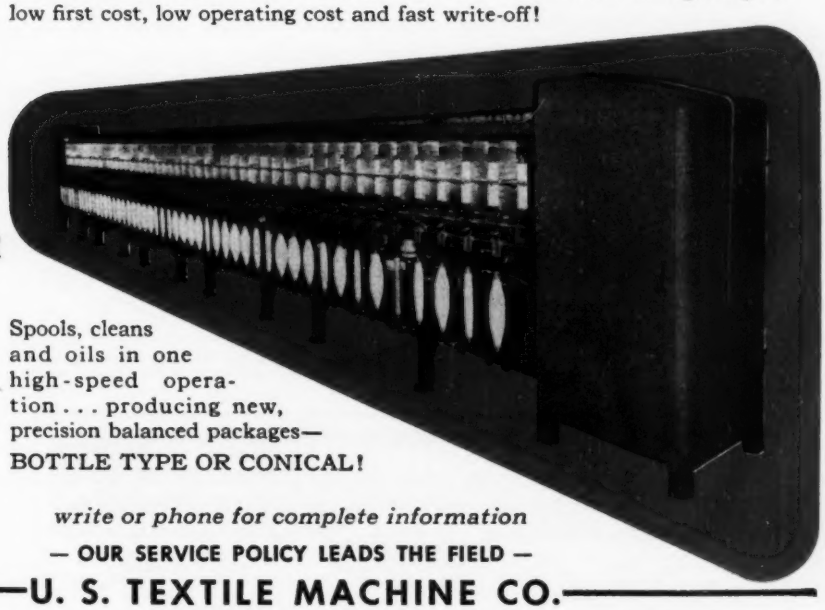
VERTICAL SPOOLER



Spools, cleans and oils in one high-speed operation . . . producing new, precision balanced packages—
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For Assured Quality Specify GLASCO

TANKS, PAILS, STORAGE CONTAINERS and other accessory equipment.

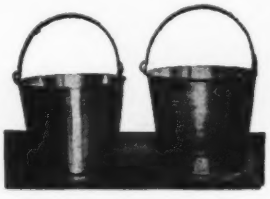
Typical of a big line are:

STAINLESS STEEL STORAGE CONTAINERS

— 18 gauge, polished outside, top edge doubled metal flanged out ¼" at 90°. Has 2 stainless steel tubular handles. Foot is 12 gauge polished stainless steel either spot or tack welded to container and sealed with solder. Capacities: 10 gals. (14" x 16"), 15 gals. (16" x 18"), 20 gals. (18" x 19"), 25 gals. (20" x 20"), 35 gals. (21" x 24"), 50 gals. (22¾" x 30").

STAINLESS STEEL PAILS

drawn in one piece (seamless), with bail handles, come with or without foot—unpolished, or polished inside, or outside — or both. They run in capacities of 12, 16 or 20 quarts.



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Come in four styles: flanged and dished bottom, flanged bottom—flat or pitched, disc bottom—flat or pitched, cone bottom. Capacities: 25-50-75-100-150-200-250 and 300 gallons. Two styles of pipe legs (either with floor flanges or adjustable sanitary feet)—or with platform lugs or removable stand. Tanks 25 through 100 gallons are of 16 and 18 gauges —and from 150 through 300 gallons they are of 14 and 16 gauges (depending on style of bottom). Extras include: 1 piece flanged cover, hinged cover, and motor bracket.

Manufacturers of modern metal equipment for wet processing uses, including Dye Jig Enclosures, Dye Tubs and Becks, Wash Tubs, etc., of stainless steel and other metals that resist corrosion under most alkali and acid conditions.

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South: Henry H. Hersey Co., 44 Norwood Place, Greenville, So. Car.
New England: Harris & Underhill, 446 Statler Bldg., Boston, Mass.

Aligning Lays

CONTINUED FROM PAGE 111

sword surfaces with a chisel and wood rasp to square the reed perfectly.

When one handrail wing nut is loose and one is tight, there should not be over 0.008-in. clearance between the handrail and the lay sword after the reed is squared. More clearance will spring the handrail and reed. Less clearance will assure that the reed has no "rock" when a 12-in. straightedge is run lengthwise across the full surface.

Because the square-block gauges were used to check the back edge of the race plate, the race plate will be 1/32 in. away from the reed surface, and there will be no danger of cutting the reed against the race plate.

10. Put on the back box plates and align them with each other with a long straightedge. Have the box plates 0.008 in. in front of the reed. Use a reed square on the top surface of the lay ends to square the box plates to the lay ends perfectly.

If adjustable box plates are used, align them with the three setscrews. If fixed box plates are used, file or shim them to fit.

11. Reset the crank arms with the lay-positioning gauge against the permanently aligned back box plates.

12. Check the battery and related parts for alignment with the lay.

Jet Cleaners

CONTINUED FROM PAGE 109

they require no skill to operate, and they are little trouble and effort to the operators. Mr. Hall has found the recommended procedure of cleaning out the fans and condenser screens every 8 hrs. to be adequate. No greasing is necessary.

Here Is the Complete Opening Line at Danville

The opening line at Danville starts with a No. 11 condenser from the feed tables; then the cotton goes through a blending hopper, a No. 4 Aldrich opener, a Super-Jet cleaner, a No. 5 Aldrich opener, another Super-Jet, a Superior cleaner, and from there to a gyrator.

The line was designed for the space requirements of Danville's picker room, and one section has a duct that arches over the door going into the card room. Danville had to make only one change for the cleaners: another flue was built in the dust room to handle the large volume of air (3,000 cfm.).

Another improvement in Danville's opening line is an automatic cutoff

now...

one-bath dyeing for Dacron-wool blends!

new process eliminates carrier spotting... permits sizeable inventory reduction!

Now, the answer to another major textile problem! A new process, using diammonium phosphate as the regenerating agent, permits *one-bath* union dyeing of your Dacron-wool piece goods!

The new method saves time . . . eliminates carrier spotting and excessive scouring. Goods are more resistant to "dry cleaner" spotting . . . have greatly improved fastness against perspiration.

Another benefit is reduced inventory. Instead of being tied to large stocks of finished goods, dyers can hold Dacron-worsted blends in "grey-goods" form—dye them quickly to meet demand.

Take advantage of this latest advancement . . . and the Victor phosphates that make it possible. Write today for further, helpful information.

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Flameproofing . . . Dye-bath Acidulents . . . Light Stabilizers . . . Chrome-dyeing of Wool . . . Waterproofing . . . Bleaching . . . Textile Finishing . . . Buffering and Scouring Compounds . . . Water Conditioning

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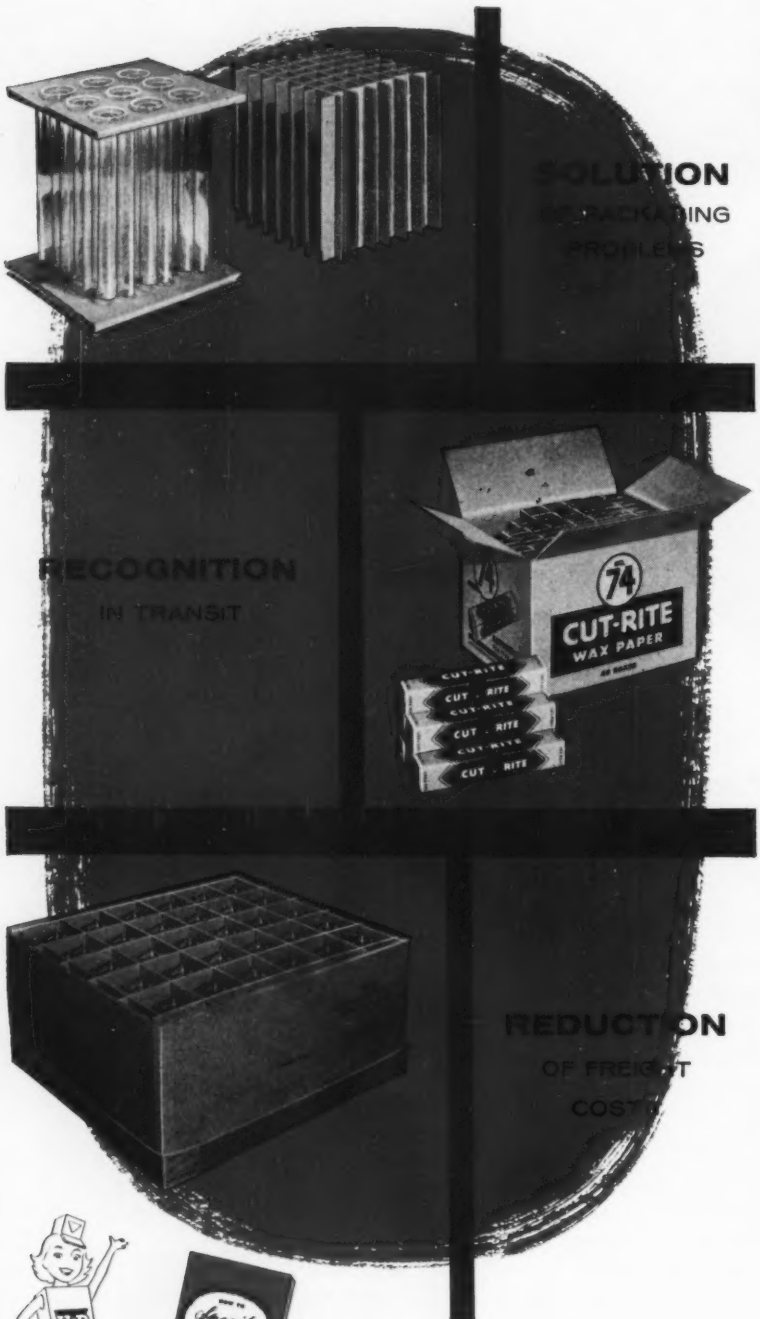

Write for booklet,
"How To Specify Corrugated Boxes."
Hinde & Dauch, Sandusky 19, Ohio

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Authority on Packaging

17 FACTORIES AND MILLS • 40 SALES OFFICES

at the condenser and gyrator. On the old line, a mercury switch at the gyrator shut off the complete line; now, an additional switch cuts on the feeders if the blending-hopper condenser gets low.

Here is how the jet cleaners work: The working elements are a grid-bar trap and two streams of air that move at different speeds. These air streams are developed by fans built into the units. As the cotton enters a Super-Jet, it is pushed forward by an air stream that moves at 1,500 cfm. As the cotton moves forward, another air stream moving at 3,000 cfm. lifts the cotton up and away from the grid-bar trap.

In the first stream of air, the heavier particles of trash develop a greater velocity; so the trash is not lifted as much by the second stream. As a result, the trash goes sailing out the grid-bar trap. The amount of waste removed is controlled by adjusting the angle of the grid bars.

Checking New Patterns

CONTINUED FROM PAGE 127

eight (the number of picks in one repeat).

When we check fabrics with solid colors of filling, we check each end as it appears on the face of the cloth at regular intervals. In denim, for example, a filling end usually appears every three picks. As a result, the picks per inch of a two-up and one-down denim weave can be quickly determined by counting the times one particular filling end appears under the pick glass and then multiplying this number by three.

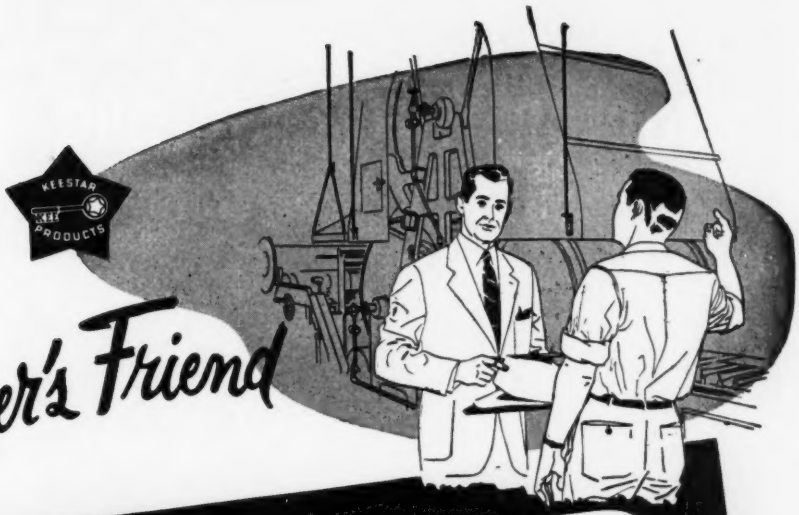
We also count the picks per inch in plain weaves with this method since each end appears on the face of the fabric once every two picks.

This system of counting picks is especially time saving when head ends of one fabric must be checked from several different looms or when the head end is to be checked at several points.

We always keep both eyes open when we use a pick glass even though only one eye actually looks through the magnifying lens. This practice results in less eye strain.

How To Count High Pickage

Other fabrics have such a large number of picks per inch that the multi-counting method cannot be used, and many fabrics are of such high count that ends cannot even be counted singly. In these cases, we sometimes cut a square inch of cloth and deter-



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This Proctor Tenter Housing is completely redesigned to fulfill your requirements. It offers you many features and operating advantages never before furnished in this type of equipment.

PRODUCTION—The Proctor Tenter Housing has the greatest drying capacity per foot of length ever offered to the textile industry—from 50% to 100% more drying capacity than conventional tenter housings.

AIR VELOCITY—The Proctor Tenter Housing provides maximum air movement with minimum horsepower.

UNIFORMITY—Air circulation is arranged to assure a uniform distribution of air from center to side of the material and throughout the entire length of the machine.

FLEXIBILITY—It is now possible to handle your complete line of fabrics with one machine because of the flexibility provided in Proctor's design of nozzles and air flow. This allows you to vary the top and bottom nozzle velocities to suit all materials.

ECONOMY—The operating cost including labor, power and all other costs is appreciably less per yard of cloth output. This saving can pay for the equipment in as little as two years.

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PROCTOR & SCHWARTZ • INC.
PHILADELPHIA 20 · PA.

mine its construction by pulling out the threads one at a time.

We seldom have to resort to the pulling-out method because filling ends that are indistinct on the face of a fabric are often clearly visible on the back. This condition is especially true on gabardines and other warp-face fabrics.

Another solution to counting picks per inch is to count them at the selvage, where the number is more easily determined. We also use the lighted inspection desk used to inspect warp yarns when we count the picks in a fabric.

When looms are equipped with both box chains and pattern chains, the box chains are often out of time on dobby or twill fabrics containing a multifilling pattern. Glen plaid and hound's tooth are two patterns that have to be watched carefully to be sure the colored picks of filling cross the warp at exactly the right point.

We study each pattern thoroughly and learn to recognize by sight when patterns are weaving correctly. Developing this ability has eliminated a lot of preoccupation with drawing-in drafts and dobby-chain plans.

Before okaying a head end, we always examine one repeat of the pattern for correct yarns and colors.

Correct Selvages Aid Weaving

Smooth selvages on a fabric are the responsibility of the designing department, but it is not always possible to foresee how selvages will weave on different cloth constructions. We often rely on the weave-room overseer to warn us of a bad condition.

Since the selvages are normally heavier than the ordinary warp yarns, the selvage may contract differently and require a different weave. When a selvage does not harmonize with the warp, we have several ways to correct the condition:

1. Tight selvages are loosened by changing the pattern chain so that the selvages make fewer interlacings per inch.

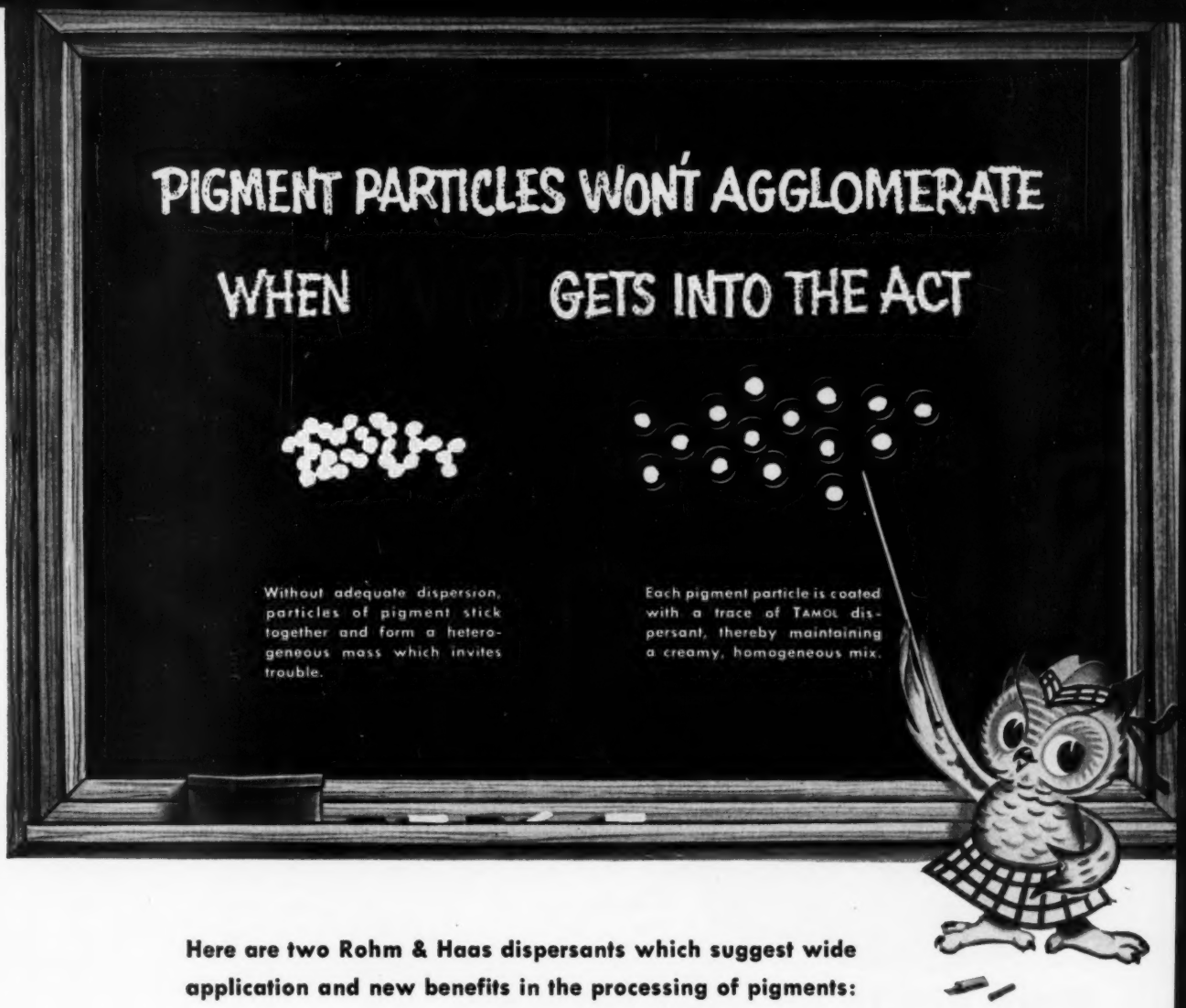
2. When it is not practical to change the pattern chain for tight selvages, we draw the selvage ends two per heddle to decrease the weaving contraction.

3. To tighten a slack selvage, we change the pattern chain to make the selvage interlace more often or crowd it in the reed by drawing more ends in each dent.

It takes just a minute to check a selvage on a head end. The selvage is important to the cloth in that it affects the appearance of the finished fabric and also contributes to good-running conditions during weaving and finishing.

Finally, in checking the head end,

For more information, write direct or use Reader Service post card.


PIGMENT PARTICLES WON'T AGGLOMERATE
WHEN
GETS INTO THE ACT
Without adequate dispersion, particles of pigment stick together and form a heterogeneous mass which invites trouble.
Each pigment particle is coated with a trace of TAMOL dispersant, thereby maintaining a creamy, homogeneous mix.

Here are two Rohm & Haas dispersants which suggest wide application and new benefits in the processing of pigments:

TAMOL N is an efficient, economical dispersant for pigment and dyes. Its action upon solids occurs *without* depression of surface or interfacial tension. As a result, there is no frothing or foaming during milling or mixing operations.

TAMOL N is a particularly fine dispersant for carbon black. It is a highly efficient dispersant in print pastes, giving improved printing properties. TAMOL N is available in water solution, designated TAMOL L.

TAMOL 731-25% is a colorless liquid dispersant which is electrolyte-free. It has excellent dispersing activity on a wide range of solids. It will effectively disperse hydrophobic solids like carbon black, and also many of the more hydrophilic inorganic pigments. It is also available in 100% active dry form as TAMOL 731.

TAMOL N and TAMOL 731-25% are both available in commercial quantities.

For complete technical information, write to your nearest Rohm & Haas office.

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• No wonder this bench yoke vise is popular everywhere! You can make the yoke open for either right or left hand. It has an integral pipe rest for easier cutting or threading . . . built-in pipe bender . . . strong special malleable yoke and base . . . LonGrip jaws of top quality tool-steel. You simply can't beat it for efficient easy operation that lasts for years! Buy it at your Supply House.

Same work-saver features in RIDGID post, kit and stand yoke vises and bench, post and stand chain vises.

RIDGID Chain Bench Vise, ⅛" to 8"

THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U. S. A.

we check the over-all appearance of the cloth. It's easy to become so interested in the details of construction specified by the graph and construction sheet that the appearance of the cloth is overlooked. Many errors cannot be detected from small areas of cloth but readily show up in large sections.

When a new fabric is started up on a loom, the head end must be okayed by several people such as the weaveroom overseer. However, we don't count on someone else to catch defects in the fabric. We find them ourselves in the designing department.

Calhoun Maintenance

CONTINUED FROM PAGE 75

A monorail system serves the section-beam creel, and one is also used to doff the full loom beam.

A cradle-type hand-operated truck made in the machine shop is used in connection with the monorail system. The truck is so perfectly balanced that little physical effort is required to roll a full loom beam to the storage rack and stand it on end. Empty beams are also taken from their storage rack and placed in the slasher with the truck.

By removing the heavy physical work commonly associated with slashing, Calhoun Mills is able to use slasher tenders with many years of valuable experience when they normally would not be able to do the heavy physical labor.

Removal of cloth from the weave room is done with an electric truck. As cloth is doffed from the loom, it is placed on a truck with casters. The truck bottom is high enough off the floor for the arms of the electric truck to go beneath, and truck and cloth are moved together to the cloth room.

Cloth Devices Are Mill's Own

The sewing-machine cloth-scray shearing-machine-folder unit in the cloth room is stopped at the end of each roll of stitched cloth by an automatic device. One unit is controlled by an electric eye. When all the cloth runs off the cloth tube that's placed in the roll of cloth at the loom, the electronic device stops the machine before the cloth goes through the rollers at the stitcher.

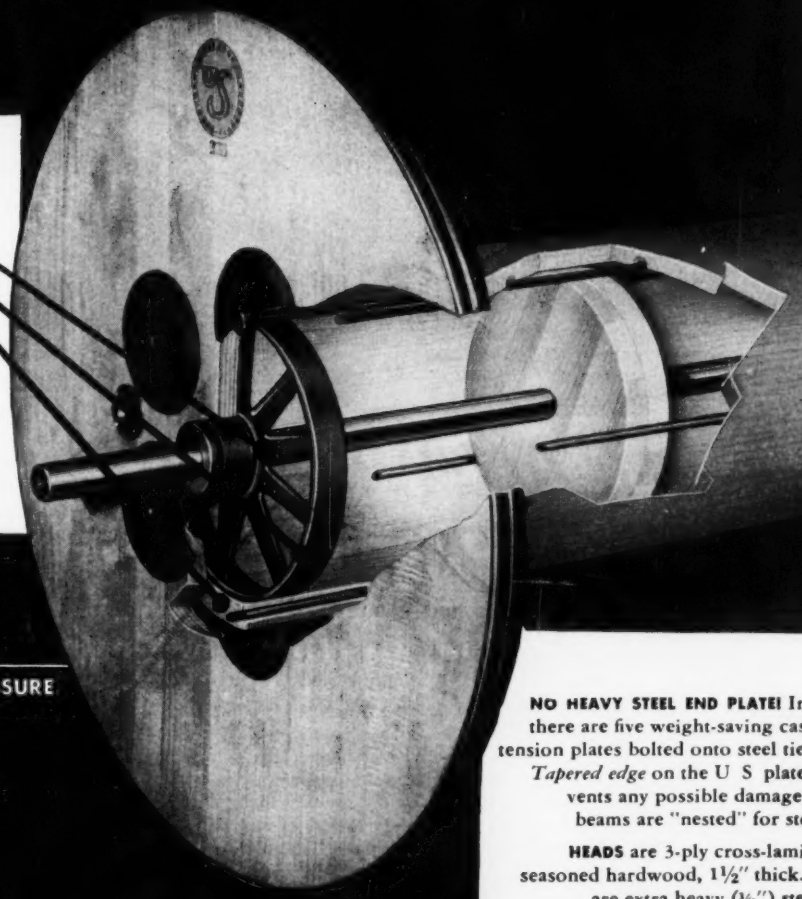
Because of this device, the stitcher operator can leave the machine and leisurely prepare another roll of cloth for the stitcher. When the cloth scray builds up a sufficient surplus of cloth, the stitcher attendant can also leave the unit running while he is away from the job for a short time

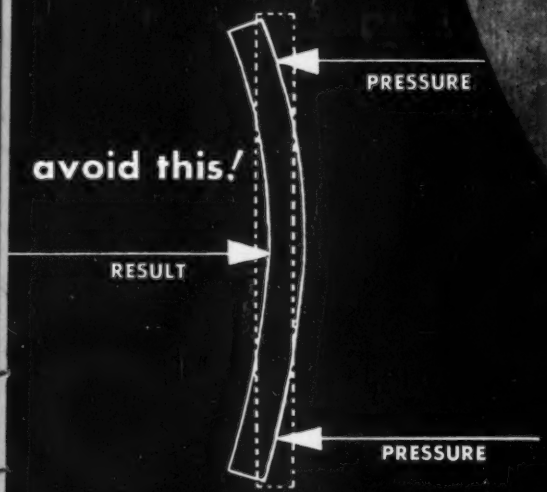
COTTON...spun rayon...and wool

3-POINT SUPPORT FOR THE BEAM HEAD

shoulder at hub of casting •
periphery of casting •
ends of staves •

U S Warper Beams are *all* built with 3-point support, which provides additional resistance against outward deflection during build-up of the beam.





NO HEAVY STEEL END PLATE! Instead, there are five weight-saving cast iron tension plates bolted onto steel tie rods. *Tapered edge* on the U S plates prevents any possible damage when beams are "nested" for storage.

HEADS are 3-ply cross-laminated seasoned hardwood, 1½" thick. *Tires* are extra heavy (⅜") steel . . . grooved, heated and shrunk-fitted onto the heads for tighter assembly. Eastern pine barrel staves are supported at each end by round cast iron supports.

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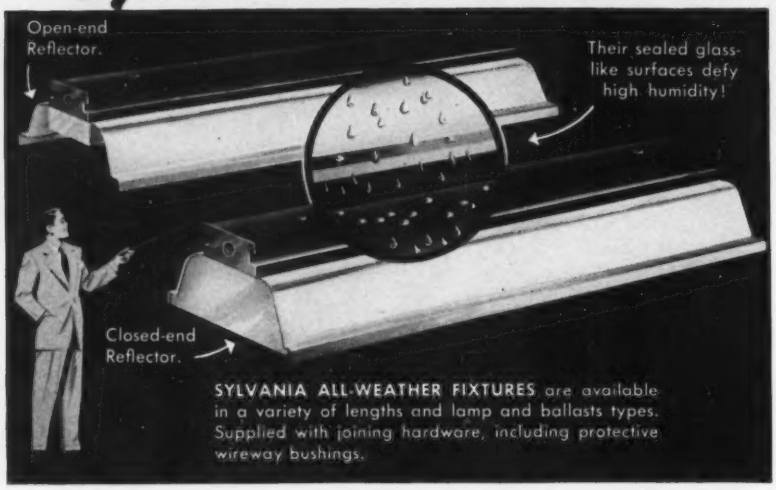
SEND FOR SET OF BLUEPRINTS
and Bulletin CWB
for detailed construction features of U S Warper Beams, Heads and Tension Plates for Cotton, Spun Rayon and Wool.

THE SEAL OF QUALITY AND SERVICE
US
SINCE 1893

Sylvania Announces...


Open-end Reflector.
Their sealed glass-like surfaces defy high humidity!
Closed-end Reflector.
SYLVANIA ALL-WEATHER FIXTURES are available in a variety of lengths and lamp and ballasts types. Supplied with joining hardware, including protective wireway bushings.

a durable ALL-WEATHER LIGHTING FIXTURE LINE

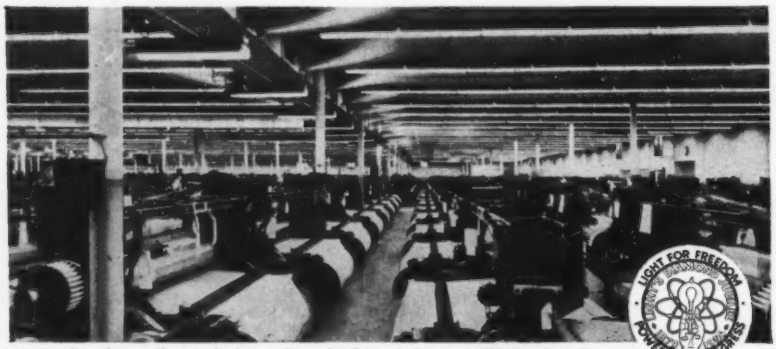
Save maintenance, save money, save time . . . by installing Sylvania's new All-Weather Lighting Fixtures in your mills!

Here at last is the fixture that solves rusting problems resulting from high processing humidities.

Ideal for installation in textile and paper mills, packing plants, and laundries. Channels and reflectors are of 20 gauge vitreous steel, coated with a glass-like, Titanium-base, porcelain enamel. This not only is impervious to dampness, but it's also highly resistant to chipping, cracking, and crazing.

Long-life, Efficient Construction

These sturdy, new Sylvania fixtures are specially designed for quick, economical continuous-row installation. Slide-grip hanger grooves along entire length provide flexibility of mounting. For full details write to Dept. 4X-5206, Sylvania.



Note abundant all-over lighting furnished by Sylvania All-Weather Fixtures.

SYLVANIA

Sylvania Electric Products Inc. 1740 Broadway, New York 19, N. Y.

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LIGHTING • RADIO • ELECTRONICS • TELEVISION

without danger of unthreading the cloth.

Two other stitcher units are equipped with levers connected to mercury switches. The switches stop the machines when the cloth reaches the last 2 or 3 yds. on the roll. The other 3 yds. is run off by holding down a foot pedal.

The electronic control and the mercury switch each has its advantages; the electronic control is operated with less physical effort, but it requires more maintenance than the mercury switch.

Both types of controls were designed and built through the joint efforts of the cloth-room overseer and the plant engineer. The electronic control was built for around $300. The mercury-switch control was built for about $50.

Mercury Switches Cut Downtime

Another control added to the stitcher unit is placed on the Hermas shearing machines. Under normal conditions, when the blades separate to let stitcher-machine seams pass, a large gout or other defect often causes the tripping motion to retrip, and the seam is cut in two. Cleaning the blades and restarting the machine usually requires 6 or 7 mins.

A mercury lever and switch have been added to the tripping motion to reopen instead of trip the blades when a gout passes through near the seam. This motion was designed by the cloth-room overseer and built by the maintenance department.

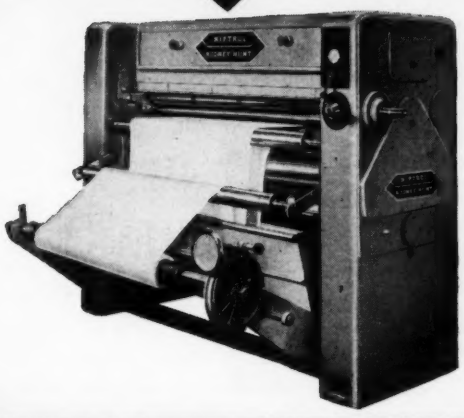
Rearranging the clothgraders' tables to receive cloth at the folders has further cut travel time and materials handling just as it has in unloading cotton.

Graded cloth is dropped on a conveyor belt and delivered to a checking clerk. The clerk uses several adding machines, one for each style of cloth, to record each bale of cloth for shipment. Each piece of cloth is added on a machine as it comes off the conveyor and is then put on a false-bottomed truck.

When a truck is filled, it is moved to the press. The cloth, while still on the false bottom, is moved onto the press for baling by an electric motor. When the cloth is baled, the motor reverses and removes the false bottom. With this method, the cloth is lifted only once after grading, and the yardage check at the end of the conveyor line becomes the final shipping record since no other addition has to be done.

The entire maintenance department, including upkeep of the physical plant, electrical work, and plumbing in the mill and company-owned village, is under the direction of E. L.

NEW!
The Niptrol
Pneumatic Mangle



The Niptrol* Pneumatic Mangle eliminates the consequences of roll deflection by distributing total pressure as needed through the length of the upper squeeze roll to compensate completely and uniformly for deflection of the roll at any pressure.

So effective is the pneumatic method of equalizing load that it is possible, at maximum pressure, to maintain a constant nip of 3/16ths of an inch throughout the full width of the roll. This novel pneumatic system in combination with the extraordinary surface characteristics of one of the rolls gives a degree of extraction equal to that of a conventional heavy-duty 20-ton water mangle without damage even to the most delicate fabrics!

When used for simultaneous extraction and starching, the Niptrol Mangle assures equal distribution of starch the full width of the roll.

Write for NEW Bulletin

Resins for crease-proofing, waterproofing, etc., are effectively applied by the Niptrol Pneumatic Mangle to many fabrics including cotton, wool, rayons and synthetics. High efficiency at both nips gets resins *into the fibers.* All excess resin is removed at the final nip and returned to the chemical bath. Hand, finish and quality of fabrics are exceptional!

A new four-color bulletin describes the outstanding process flexibility of the new Niptrol Pneumatic Mangle. Please write for your free copy.

*Niptrol is a trademark of Rodney Hunt Machine Co. Patents Pending.

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Manufacturing Engineers Since 1840

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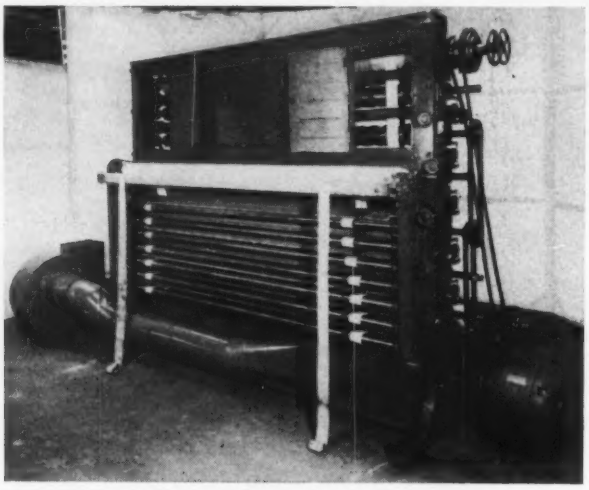
THE FABRIC DESPECKING AND DENEPPING MACHINE



AS A SEPARATE OPERATION

OR TANDEM WITH SHEARING RANGE

ESPECIALLY
FOR
COTTONS
SYNTHETICS
WORSTEDS
OR MIXES

STOP THAT
HAND SPECKING

NOT a Brush — It Really Cleans Cloth. Removes Neps, Nibs, Shive, Trash, Mote, Etc. Does Not Injure or Nap the Cloth. Permits Use of Lower Priced Cottons. Send Sample Yardage to Treat to Prove the Advantage.

PARKS & WOOLSON MACHINE CO.

SPRINGFIELD, VERMONT

Shaw, plant engineer. He reports directly to J. C. Godfrey, vice president and superintendent. Mr. Godfrey, in turn, reports to President Charles A. Gibson.

Knit-Goods Bleaching Range

CONTINUED FROM PAGE 114

filling of the J-box. Except for occasional stops of short duration, the range runs continuously for 24 hrs. each day until the J-box is emptied at the end of the week's schedule, about 7 a.m. Saturday. Cleaning the equipment and oiling and greasing moving parts is done every Saturday morning.

One of the two men employed on the range is stationed at the chemical end to control the wet-out and chemical saturators and the J-box. The other man is at the exit end and checks and controls the washers, the fluorescent bath, and the delivery.

Bleaching production is presently running at 135,000 to 143,000 lbs. per week. The full capacity is 145,000 lbs. Pits and other provisions have been made to add a second range when more knitting machines are installed.

The complete range, including plumbing, electrical work, and instruments cost about $70,000. Everett J. Moore, general manager of the Union Underwear Co. plant, says that knit cloth bleached by the continuous process has a soft hand and is very uniform in quality.

Chemical Finishing

CONTINUED FROM PAGE 133

are not washfast. Their mode of action was believed to be due to:

1. Evolution of nonflammable gases that blanket the flame (diammonium phosphate, $(NH_4)_2 HPO_4$, liberates N_2, H_2O, and P_2O_5).
2. Production of a nonflammable molten material that coats the fibers and prevents further access of oxygen. (Borax and boric acid act this way.)
3. Possibly the heat of combustion being absorbed so that the flaming gradually slowed down rather than accelerated. (Certain metal oxides, such as antimony oxide, seem to function like this.)

However, the action of one of the earliest semidurable types, the highly chlorinated hydrocarbons, sometimes used in conjunction with antimony oxide, may be explained on the basis of gas evolution.

4. A more recent theory developed

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What happens to your products when they "hit the road?" Are they treated as carefully as you treat them back home?

Undoubtedly NOT! They're bounced . . . thrown . . . jostled . . . bumped. Not purposely, of course—but it does happen.

For minimum damage, many leading manufacturers are careful to specify Gaylord Boxes. This is a natural compliment to high quality, superior materials, and special protective abilities.

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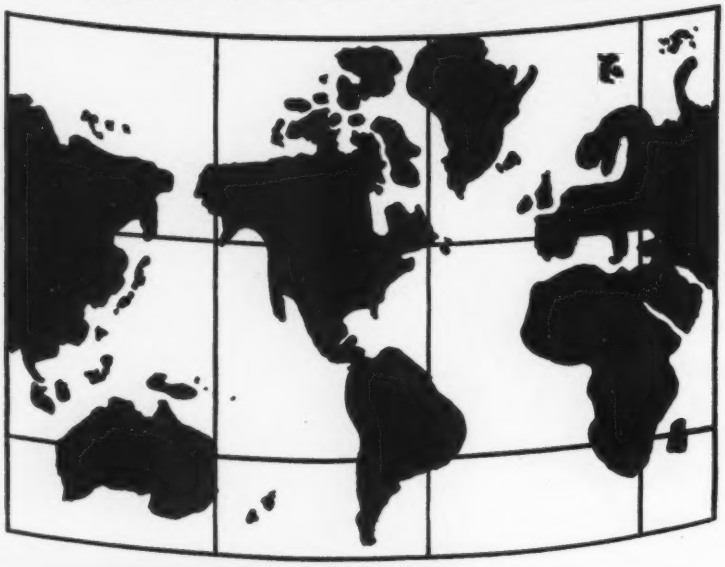
Johnson Sizers

mean Uninterrupted Service and Low Maintenance here and in 40 Foreign Countries



Even in a large mill the entire production of the plant often depends on uninterrupted flow of warps from a single sizer. So trouble free performance is highly important.

It is even more vital when the slasher is used abroad. It is, therefore, highly significant that not only in the United States but in 40 foreign countries including the republics of Latin America, in Europe, Asia, and Australia, Johnson sizers are turning out quality warps day after day, year in and year out for hundreds of mills giving uninterrupted service and low maintenance costs.

An important factor assuring users of Johnson sizers trouble free service is the complete assembly and running, at the Johnson plant, of every sizer to be sure each part fits properly and the machine runs smoothly. All parts are doweled to assure accurate fit on reassembling the machine at the plant.

Write for our three-color 20-page catalog giving a point by point description of the Johnson sizer, with special section describing new features.

Charles B. Johnson

MACHINE WORKS

24 Piercy Street **Paterson, New Jersey**

during World War II states that the more-effective flame retardants (including the phosphate type) operate by catalyzing the thermal decomposition of cellulose directly into carbon and water so that little or no flammable tars are produced. (See Fig. 1.)

Of the four mechanisms, 1 and 4 appear most logical, although 2 and 3 may play a part in some instances.

The more recent classes of durable flame retardants for cellulosic fibers, along with some of their recognized deficiencies, are:

1. Urea-phosphate-salt type, cured onto the fabric to form a cellulose-phosphate-nitrogen complex, as shown in Fig. 2, has limited durability to alkaline washing, and the fabric is somewhat weakened. Various modifications include addition of thermosetting resin and sometimes metallic oxides. All phosphorous types tend to be glowproof as well as flameproof, a very desirable factor.

2. The THPC process utilizes a phosphorous-formaldehyde derivative reacted with a thermosetting resin. It tends to give a stiff hand, caused by deposits of surface resin. This process is the newest of the flameproofing methods and is undergoing extensive study.

3. Salts of titanium and antimony are applied from aqueous solution and neutralized to deposit oxides inside the fiber, as illustrated in Fig. 2. Glow inhibitor must be added. The finish is resistant to alkaline washing but not to the acid rinse used in laundries. If the salts are not properly applied, there may be some dusting caused by surface oxides.

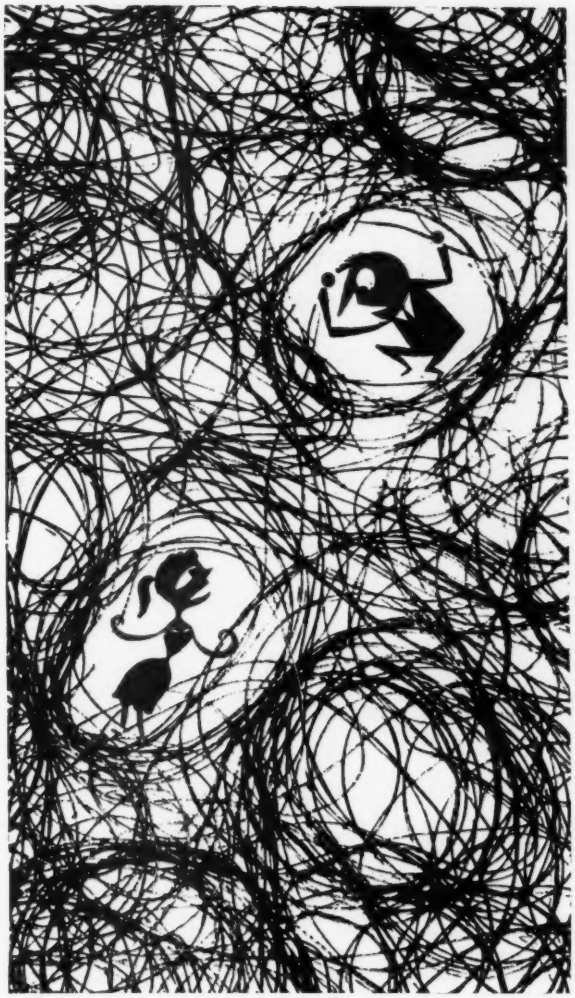
4. Thermoplastic vinyl-phosphate-halogen polymer is applied from a solvent solution. Because it remains entirely on the surface of the fiber, the finish tends to impart some stiffness. While quite flame retardant, most members of this class fume strongly when ignited; and the vapors, unfortunately, are excellent tear gases.

The deficiencies listed above are general and do not necessarily apply to all formulations within the class. Progress is being made, and there is no doubt that research will continue.

Other Fibers

Wool is regarded sufficiently flame resistant without treatment. It bubbles and fumes on ignition and does not readily propagate a flame.

Among the synthetic fibers, there is much variation in flammability. Dynel does not burn. Acetate and nylon burn slowly compared to the cellulosics, but they present an added hazard that is shared by most of the synthetics as a class: they do not readily catch fire the way cellulose



confused?

Modern lubrication for textile machinery can be a confusing proposition. Only an expert knows all the answers . . . and Cities Service Lubrication Engineers are true experts serving American industry throughout the country. A quick, accurate lubrication survey by a Cities Service Lubrication Engineer coupled with his highest, quality line of Cities Service lubricants can take the guesswork and confusion out of your textile operation. For his free services, call the Cities Service Office nearest you or write Cities Service Oil Company, Sixty Wall Tower, New York 5, New York.

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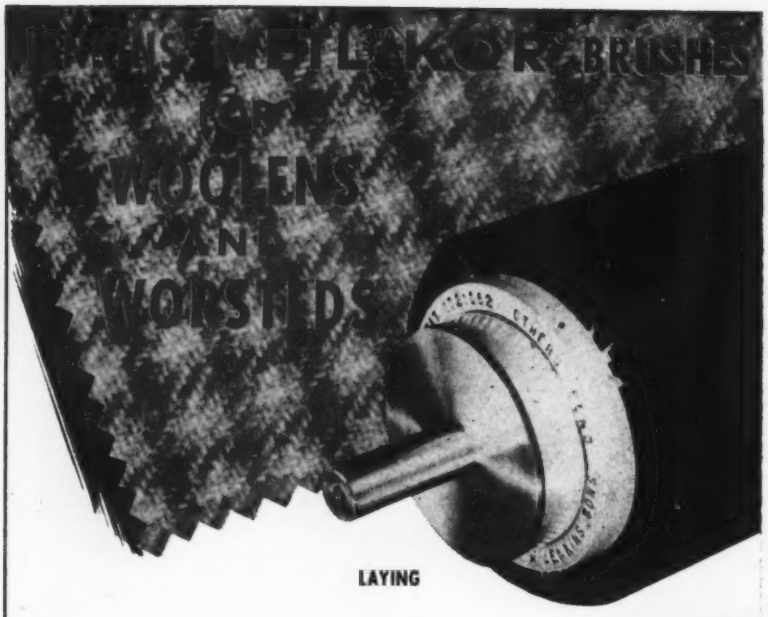
QUALITY PETROLEUM PRODUCTS



LAYING

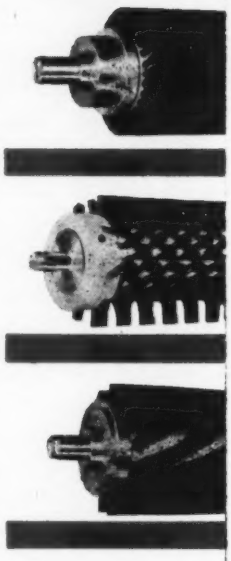
One of the most important factors in achieving top quality and peak performance in the manufacture of woolens and worsteds is the use of the right brush, correctly designed and constructed. The Jenkins' METLKOR brush for the woolen industry is just such a brush, developed out of three-quarters of a century of experience.

Specifically designed for processing these fabrics, the Jenkins' METLKOR brush will not sag, split, crack or get out of alignment. True-balanced and uniformly tufted to give uniform production, this brush—with any desired bristle on permanent metal core—will outlast other brushes many times while surpassing them in efficiency.

Leading textile machinery manufacturers for years have been using efficient Jenkins' METLKOR BRUSHES as an integral part of their equipment.

If you have any standard or special brush problems, write, wire or phone today, without obligation.

LIFEWOOD® *for wood core brushes and lags.*



OTHER METLKOR BRUSHES FOR WOOLENS:

- BRUSHING MACHINE
- TEASELING
- TEASEL CLEANING
- CARDING
- WET CLOTH BRUSHING
- STEAMING
- PRESSING MACHINES
- SINGEING

M. W. JENKINS SONS, INC.

One Hundred Years of Pioneering Service for Industry

Cherry Grove, Bergen County, New Jersey

does; but once aflame, they melt and drip. Attempts to beat out the flames with the hands (a very natural action) would probably result in third-degree burns from the molten material, which has excellent adhesion to the skin.

Of several proposed flame retardants, some, like thiourea resins for nylon, stiffen the fabric appreciably in the concentration required for effective control. This stiffening can be used to advantage, for example, in imparting a stiff finish to nylon netting without increasing the flammability the way the ordinary urea and melamine resins do. Mixtures of urea and thiourea resins have also been found satisfactory in some instances. More-unusual processes, such as the esterification of acetate with organic chlorophosphates applied in the spinning dope, are too new to be judged from an economic or practical basis.

The question of dripproofing is related to another problem of considerable commercial importance. Persons wearing fabrics made of the newer synthetic fibers have observed that hot cigarette ashes accidentally dropped onto their clothing cause holes. This, too, must be regarded as an unsolved problem.

Rotproofing

As a rule, only the cellulosic fibers, such as cotton, rayon, and wool are attacked by microorganisms. The noncellulosic synthetics are not ordinarily affected by mold and bacteria. Their extreme hydrophobic nature precludes their decomposition by microorganisms, since moisture is a prerequisite to rotting.

The rotting of cellulose is now known to be an enzyme-catalyzed hydrolysis. This fact means that the mold or other microorganism, which cannot utilize cellulose in its natural state, secretes an enzyme—an organic catalyst—that splits the cellulose into small fragments that the organism can use.

The earliest methods of imparting mildew resistance to cellulosic fabrics involved treatment with salts of zinc, copper, mercury, or cadmium. These salts, it was believed, interfered with the living processes of the organisms in much the same way that they might interfere with our own.

Because simple salts tended to wash out, organo-metal compounds were devised that could be applied from a solvent solution. On evaporation of the solvent, the finishing agent was

Gaston County

NEW 'HY-VACUUM' NYLON 'HELANCA'

Developed primarily for steam setting the twist in Nylon "Helanca" yarns, this new controlled vacuum-pressure system has a definite place in other types of steam processing. Experimental projects now being conducted by leading woolen and worsted mills are showing such remarkable results, it may indicate the replacement of conventional steam box methods, on the basis of quality alone.

THE PROCESS—More Efficient, More Economical

- Start vacuum pump by means of push button. 22" to 25" vacuum is produced in 2 to 3 minutes. (Pump stops automatically.)
- Steam is injected at controlled temperature for any desired time period. (Steam is expelled automatically.)
- Automatic controls start pump and vacuum cycle is repeated to remove moisture from vessel.
- Pump stops and vacuum relief valve opens to restore atmospheric conditions inside vessel.

THE ADVANTAGES—Higher Quality, Bigger Profits

- Time saving. (Complete process in 30 minutes or less, depending on steam injection cycle required.)
- Positive shrinkage. (Yarn is shrunk and twist is set *uniformly* from *outside to spool core.*)

CUSTOM BUILT to customer specifications in accordance with ASME standards, Gaston County autoclaves can be designed with vessels to fit into existing systems using present pin racks and trucks.

RUGGED CONSTRUCTION, always an outstanding feature of Gaston County beam and package dyeing machines, is even more essential in vacuum vessels. Our engineering staff is eminently qualified by experience to design the best equipment for your requirements.

COMPLETELY AUTOMATIC OR MANUAL machines are available. Whether your requirements are large or small we are equipped to serve you. Please phone, write, or wire for complete details.

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Pioneers in Automatically Controlled Dyeing Machines

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614 St. James St. W., Montreal
137 Wellington St. W., Toronto

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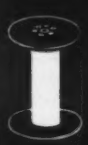
TAKE-UP BOBBIN – BAKELITE BARREL, ALUMINUM HEAD.

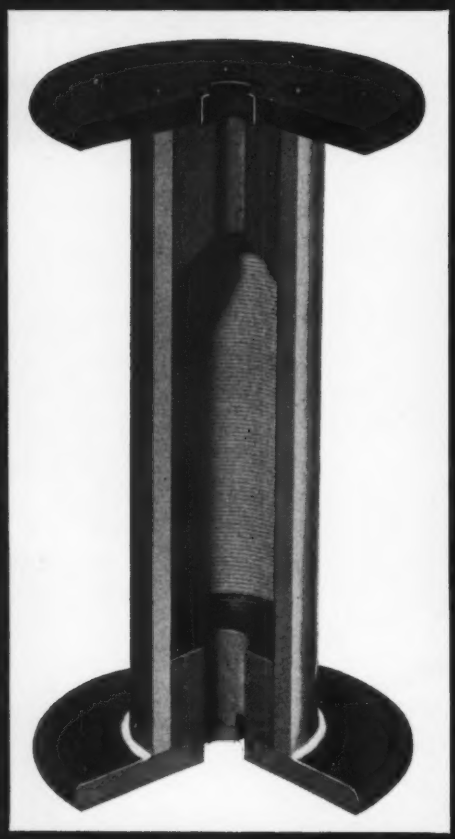
WINDER SPINNER BOBBIN – BAKELITE BARREL AND BUSHINGS, FIBER HEAD.

TWISTER BOBBIN – ALL BAKELITE – BARREL, HEAD, BUSHING.

HEADLESS PACKAGES IN SEVERAL TYPES OF ALL BAKELITE CONSTRUCTION.



SHIPPING BOBBIN – MAPLE BARREL, FIBER HEAD.



BUILT TO FOIL NYLON'S GRIP

Construction quality typical of all Mack Bobbins is shown by this cutaway view. All bakelite construction—bushings, head, barrel—give this Mack Twister Bobbin the strength and durability to withstand Nylon's mighty grip even with excessive winding tension and prolonged steaming. Also available with fiber heads (at lower cost) for winder spinner use where steaming is not required. Both styles are tested for strength, concentricity and dynamic balance—start balanced, stay balanced.

ALLENTOWN BOBBIN WORKS, INC.
ALLENTOWN PENNSYLVANIA

leach resistant. Care had to be taken not to make the compound too insoluble, since there was evidence that a very insoluble material like cupric oxide had little activity.

The organo-metal compounds vary widely in efficiency. Of the effective ones, two of the best known are copper naphthenate, which proved its merit in rotproofing sandbags during World War II, and copper-8-quinolinolate, which is so insoluble that it is relatively nontoxic to humans yet very effective on fungi. The latter is generally applied from a water emulsion.

Organo-zinc and organo-cadmium complexes have also been employed. Their chief advantage is freedom from color, but in general they are less effective than copper compounds. Mercury derivatives are, in some cases, even more efficient than those of copper; but they are very poisonous. Despite this drawback, they have had considerable use.

Among the organic materials that do not depend on heavy metals for their activity, two types are worth mentioning. The first type is based on phenol, cresol, or other hydroxy-aromatic compounds, which have long been known for germicidal activity. By incorporation of chlorine into the molecule, marked fungicidal activity is obtained. Some of the larger and more complex molecules are resistant to water leaching, though not to washing.

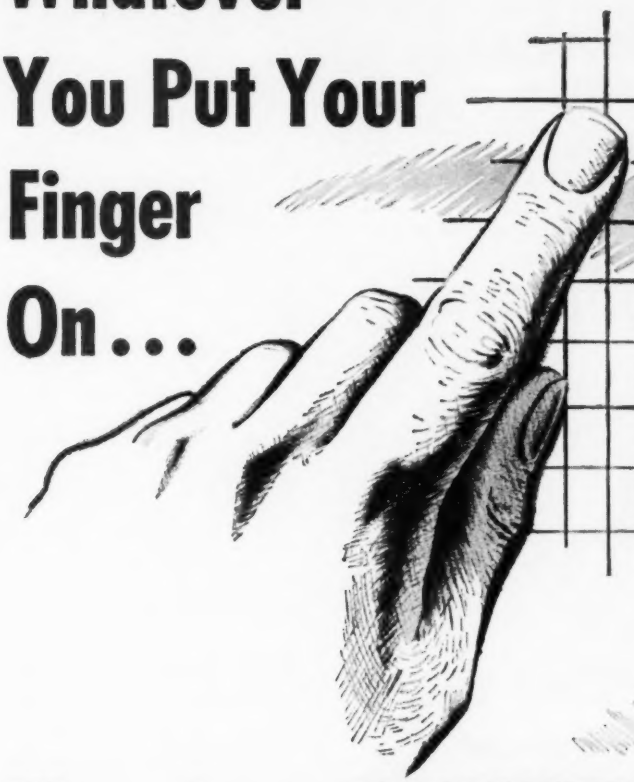
Another group of organic materials, long noted as germicides, are the quaternary ammonium compounds. Most members of this group have the additional advantage of being substantive and therefore can be exhausted onto the fabric. These compounds also have some washfastness, although alkaline soapings will remove them.

Attempts to convert such materials to fungicides by the incorporation of chlorine have been successful; but secondary disadvantages, such as tendency of the treated fabric to degrade in sunlight, have restricted their use.

The most recent approach to the rotproofing of cellulose has come through the realization that by slight alteration of the cellulose molecule the fibers become resistant to degradation caused by the usual cellulose-hydrolyzing enzymes. The first clue to this technique came several decades ago, quite by accident, when cellulose acetate was found to resist rotting in sea water. But the general nature of the phenomenon was not recognized until World War II, when the urea-phosphate-cellulose treatment (to impart flame retardance) was also found to be imparting rot resistance.

Fabrics treated with thermosetting resins and reactants also have appreciable resistance to rotting, caused in

Whatever You Put Your Finger On...



- Sizing or Desizing
- Scouring
- Bleaching
- Dyeing and Printing
- Soaping after Dyeing
- Sanforizing
- Finishing

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AHCOWETS — *Superior Surface Active Agents*

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Ahcowet 129	Continuous vat dyeing
Ahcowet N	Bleaching assistant, general purpose non-ionic
Ahcowet RS	Rewetting, sanforizing, finishing
Ahcowet ANS	Scouring synthetics, penetrant
Ahcowet 51	Economical detergent and penetrant
Ahcowet AF	Non-foaming screen printing penetrant
Ahcowet 126	Cationic for wetting and rewetting
Ahcowet VL	Retarding in vat dyeing, dispersant for acetate dyeing
Calsolene Oil HSA*	Dyeing of synthetics, non-rewetting

*Member of the AHCOWET family

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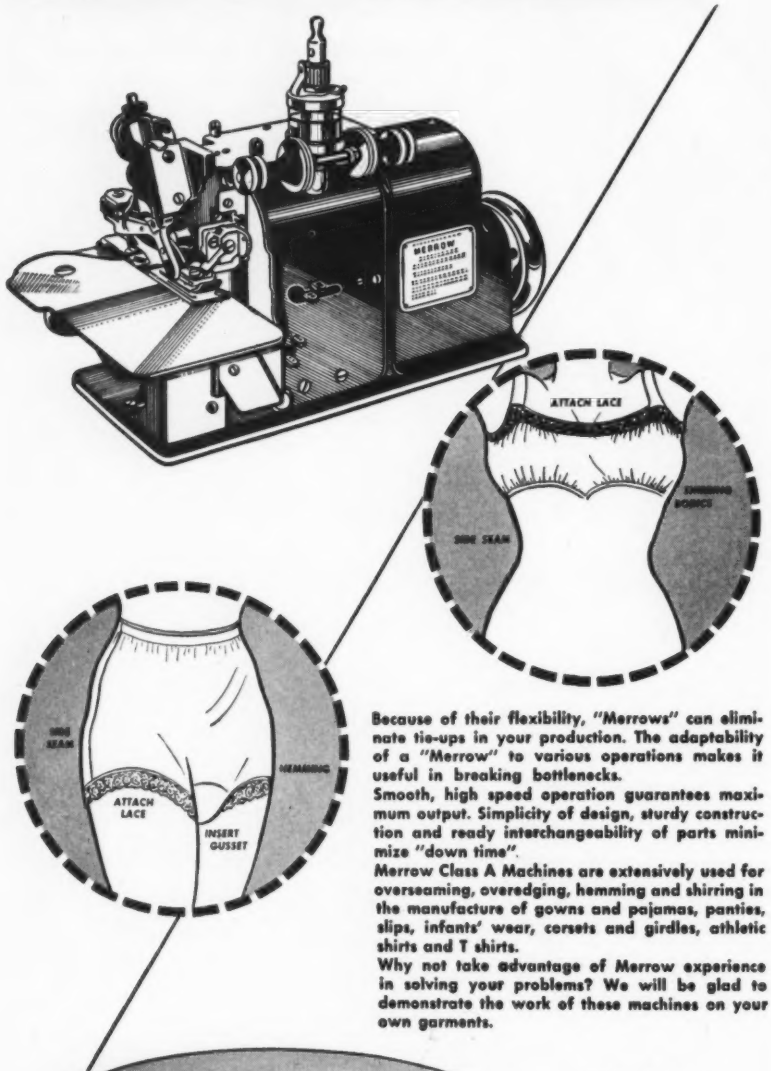
MERROW CLASS A MACHINES ELIMINATE PRODUCTION BOTTLENECKS



Because of their flexibility, "Merrows" can eliminate tie-ups in your production. The adaptability of a "Merrow" to various operations makes it useful in breaking bottlenecks.
Smooth, high speed operation guarantees maximum output. Simplicity of design, sturdy construction and ready interchangeability of parts minimize "down time".
Merrow Class A Machines are extensively used for overseaming, overedging, hemming and shirring in the manufacture of gowns and pajamas, panties, slips, infants' wear, corsets and girdles, athletic shirts and T shirts.
Why not take advantage of Merrow experience in solving your problems? We will be glad to demonstrate the work of these machines on your own garments.

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The MERROW MACHINE COMPANY
ESTABLISHED 1838 INCORPORATED 1936

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part by the more hydrophobic nature of the fibers and partly by the chemical modification of the fibers.

In Conclusion

In this general—and by no means complete—discussion of fabric finishing, the emphasis has been on underlying principles rather than on specific formulations or details of application.

Once there is an understanding of where a certain chemical goes and how it operates in imparting a certain new property to a textile fiber, we are usually able to predict which other chemicals will produce a similar effect. Two chemicals, regardless of how different they may be in many respects, will nevertheless produce similar results in any end use where their utility is based on a property (or properties) they have in common. At least, the differences, if any, will be in degree rather than in kind. The proper method of application is also more obvious once we realize where the chemical is to go and what it is expected to do.

Card-Room Inspection

CONTINUED FROM PAGE 124

The overseer of carding gives these nine reasons why he likes the inspection routines:

1. Faults in lubricants or lubrication methods are detected and a remedy indicated.

2. Parts defective in material or workmanship are detected and corrections made in future replacement parts.

3. Adjustments or settings that cause excessive wear, parts breakage, or a poor-quality product are detected and corrected.

4. Production time lost to parts failure and replacement is reduced.

5. Fewer repairs and replacements mean less work for second hands; so they have more time for other supervisory duties.

6. Correction of faulty conditions prevents failure of many parts and reduces the costs of parts replacement.

7. Comparisons of present and past inspection records show up repeated failures.

8. Good-running machines improve the morale of machine tenders and repair men.

9. Good inspection and repair insure that the operating condition of every machine is as near perfect as possible.

Differences in water conditions, equipment characteristics, materials processed — all of these factors, and many more, must figure in your soap specifications.

Swift's years of constant attention to the varied needs of our many customers, backed by continuous research and development, have resulted in experience, know-how and a diversity of products that is your best assurance of finding the best soap or detergent for your job.

If you have a new way of doing things — or a new twist on an old method . . . and soap or detergents are involved, see Swift's first! See how *you* can benefit from an experienced, versatile and dependable source for soap!

The list at left represents but a few of the many products readily available from 375 Swift & Company locations throughout the U.S. and Canada. Write for details and remember . . .

ONE TRIAL IS BETTER THAN A THOUSAND CLAIMS

Swift SOAPS

Another of Swift's Products for Industry

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Industrial Soap Department
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For more information, write direct or use Reader Service post card.

Labor cut from 2 hours to 10 minutes

with

Bemis Tite-Fit Tubing!

Maybe you can cut your wrapping labor costs the way this New York City textile company did. After a demonstration of Tite-Fit Tubing—the spiral-sewn burlap shipping tubing with 2-way stretch—the manager said, "Last evening it took two men over two hours, using flat yardage, to hand-sew and steel-strap two units that you have covered in ten minutes."

Now, of course, Tite-Fit Tubing has taken over the job in that plant . . . and labor costs have tumbled. Ask the Bemis Man to demonstrate to you.

All burlap alike? Not by a jugful!

There are various grades of burlap and, of course, variations within those grades.

But there's one sure way to get the quality of burlap you pay for: *Rely on Bemis.**

You can always look to Bemis for the best in burlap!

**Producers and users alike accept Bemis' grading of Indian burlap as the standard for the industry.*

Bemis BAG COMPANY

General Offices, St. Louis 2, Mo.

Size-Making Equipment

CONTINUED FROM PAGE 121

A telephone connects the slasher room and boiler room so that the size-mixing attendant can be notified of any change in slasher operation or any change in the production schedule.

The size-preparation system has been in operation only a few months, but indications are that little maintenance will be required. Maintenance, to date, has been confined to cleaning.

All size in the slasher-room storage kettles and in the cooking kettles is drained at the end of the last shift before the week-end shutdown. The size lines are flushed out and cleaned to prevent caking. The equipment is thoroughly cleaned.

Heads are removed from the homogenizers; and the valves, strainers, and other parts are inspected and cleaned each week.

So that size can be quickly prepared to start slashers at the beginning of the week, the slurry tank is filled before the week-end shut-down; and slurry is continuously circulated during the week-end.

Books of Interest

BUILDING UP THE SUPERVISOR'S JOB, Manufacturing Series No. 213; American Management Association, 330 W. 42nd St., New York 36, N. Y.; paper, 35 pages, $1 to members, $1.25 to non-members.

Four excellent papers presented at an AMA conference last fall are here collected.

Clarifying the Status of the Foreman, E. E. Langeland

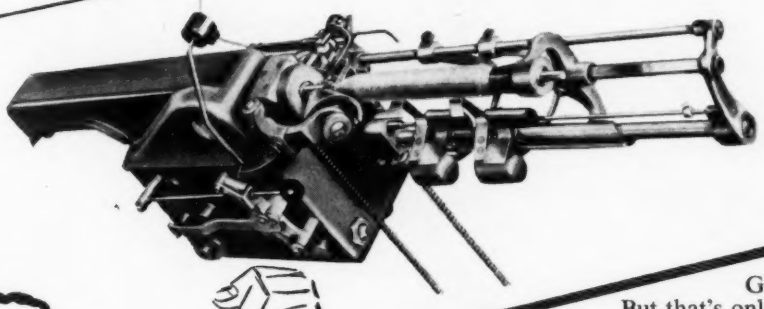
After a period of confusion in which line supervisors found themselves caught between increasing labor difficulties and decreasing responsibilities as a result of the expansion of personnel-department functions, the door to management is again being opened to foremen.

Mr. Langeland rightly believes that most top management recognizes that the line supervisor is an important link in the management chain: at the foremen's level, general policy becomes specific practice; the foreman is the molder of opinions, ideas, and attitudes.

In companies with long-range training programs and discussion conferences, the percentage of conversions of foremen to a management viewpoint is high. But many

¡CARAMBA!

PRODUCTION INCREASE 6,000 lbs. with SCHWEITER HOLLOW COP WINDER TYPE MT!



Great scott is right!
But that's only half the story of this *finest* winder for the *coarsest* textile fibres! Read the rest!

¡Por Ejemplo:

For example, four 15-spindle "MT" Automatic Cop Winders were recently installed in the factory of one of our American customers. The machines are now turning out 53,000 pounds of cop wound yarn in 120 hours with 6 people . . . as against a previous 47,000 pounds with 14 people with the old conventional cop winders!

¡Es Formidable!

The direct labor cost of the conventional winders was $10.70 per 1000 lbs. On the "MT" Cop Winder it is only $3.80 per 1000 lbs.! A saving of $6.90 . . . and that's a *big* saving!

Bueno!

Good news for you too! Write today for detailed information, prices and references, on how Schweiter Hollow Cop Winder MT can help you!

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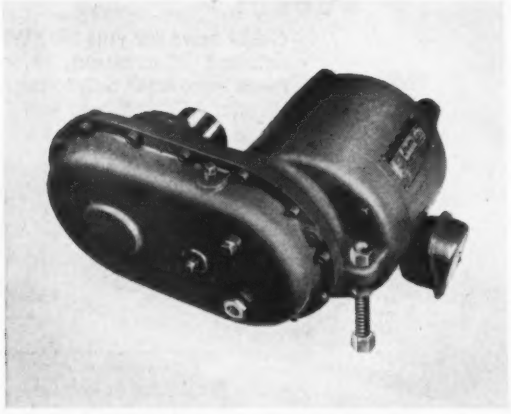


High starting torque from Westinghouse Geared Cotton Card Drives provides fast, smooth acceleration. Cards are started and brought to speed with no shock or strain to the machines. Since no belting is required, there's no chance of belt slippage. Card speed remains constant and cotton quality high.

Specially engineered card controllers from Westinghouse have these features that assure more efficient, overall card room operation: fast, sure arc quenching; dependable overload protection; lint-tight enclosures; positive circuit protection and tamperproof reversing switches. Westinghouse circuit breaker combination is shown here.

TIPS ON HOW TO SHIFT WITH THE MARKET

Modernize in easy stages with the new Westinghouse Cotton Card Drive

Here's a proven way to save money in your card room—with less risk to your investment in a shifting market. Equip your cards with the new individual Westinghouse Cotton Card Drives. Convert a few cards at a time, or many, depending on market conditions.

Easy installation of these separate drives means no disruption of card room operation or moving of cards. Each drive is quickly mounted on card cylinder shaft—no mounting platform or special alignment required.

Higher card room efficiency results from converting to individual card drives. By eliminating overhead lineshafting and belting, you improve card room efficiency as much as 25%. Westinghouse geared double-reduction drives deliver maximum power to each machine. With individual drives, cards can be operated selectively. No power is wasted on idle machines. Costly work stoppage due to failure of the main drive motor is eliminated, too.

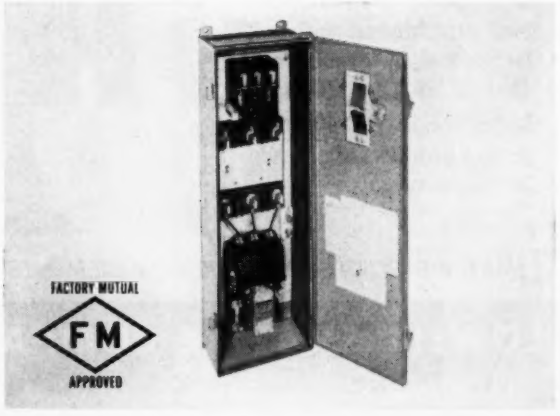
Maintenance needs are reduced with installation of these Westinghouse Cotton Card Drives. No belting to shorten, dress, repair or inspect. Servicing, cleaning and lubrication of overhead lineshafts are eliminated. Westinghouse individual card drives require practically no attention.

Westinghouse lint-tight controller is specifically engineered for cotton card application. With Westinghouse Factory Mutual Approved controls, the danger of fire from lint or dust reaching starter contacts is minimized. Instant action of relays assures positive overload protection. Contact points are protected against pitting by exclusive "De-ion®" arc quenchers. Reversing switch, used during grinding, is mounted inside the controller to avoid accidental reversal. Enclosure is Bonderized for protection against rust and corrosion.

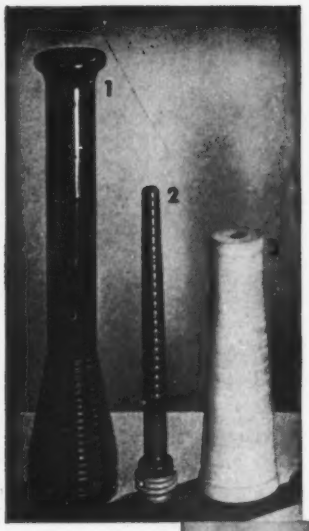
Westinghouse service is complete. Whether you're modernizing gradually, expanding or building, call your nearby Westinghouse representative early in your planning. He'll review your requirements and suggest how expert Westinghouse planning assistance and efficient equipment can save you money. At the same time, ask for B-6375 *New Westinghouse Cotton Card Drive;* or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. MP-3006

YOU CAN BE SURE...IF IT'S Westinghouse

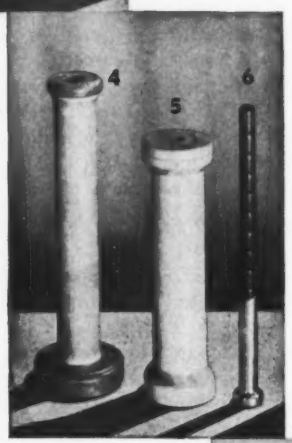
For many other applications Westinghouse lint-free motors give added dependability and reduced maintenance. Aerodynamic design of the frame keeps air stream moving freely—lint can't stick. Sealed pre-lubricated bearings eliminate costly greasing schedules. Inspection is easy with only four bolts on one-piece end bracket.



Westinghouse lint-tight combination Linestarters with NEMA XII enclosures combine dependable overload and circuit protection in one compact enclosure. Sponge-Neoprene gaskets between box and cover and external mounting feet eliminate enclosure openings. These design features assure protection against lint, dust, oil and other dripping liquids.

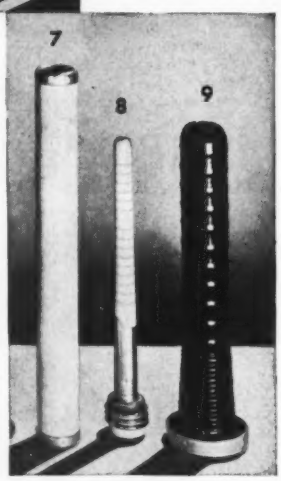


LOWELL
Bobbins, Cones Rolls & Tubes



1 Ring spinning bobbin
2 Automatic loom bobbin
3 Winder cone
4 Worsted twister bobbin
5 Winder tube
6 Bobbin for non-automatic loom with electric feeler motion
7 Warp spinning tube
8 Automatic loom bobbin for electric feeler motion
9 Worsted spinning bobbin

Lowell bobbins, cones, rolls and tubes are made from maple, birch or beech wood, as required. All wood is thoroughly seasoned, air dried and properly cured in a modern dry kiln. Bobbins are finished with oil, lacquer, shellac or enamel (baked on) as specified. Inspection is rigid and only perfect products are passed for shipment.



MAY WE QUOTE ON YOUR REQUIREMENTS?

LOWELL SHUTTLE COMPANY
Established 1896 • Incorporated 1914
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SALES REPRESENTATIVES
Hendrik Van Brederode, 311 Godwin Ave., Midland Park, N. J.; W. P. Russell, P. O. Box 778, Atlanta, Ga.; West Philadelphia Supply Co., Emerald and Somerset Sts., Philadelphia, Pa.; E. B. Smith, P. O. Box 3085, Greenville, S. C.

top-management people still talk about training and don't do much about it. Companies have two responsibilities: (1) to select the best potential supervisors, and (2) to upgrade supervisory potentials by every practical method of communication.

Top management must learn how to let foremen assume a larger part in making decisions. But with such a favorable climate, the foreman himself must enter the open door. There are four characteristics that mark a management man:

1. Clear identification with the interests of the company
2. Ability and willingness to assume responsibility
3. Confidence in himself, his fellow supervisors, and the entire management group
4. A drive to improve himself

A foreman becomes a part of management when he thinks, acts, and feels like a part of management.

Maintaining Close Communication with the Foreman, W. M. Day

Mr. Day tells of the communications experience of the Michigan Bell Telephone Co. He thought the company had an excellent "communications program," but then one day a first-line supervisor asked him why management was so "hush-hush" about everything.

As a result, management took a closer look at what was going on. The trouble, they finally decided, was that top management was talking good communications, but their actions did not bear out their words; and actions, they came to realize, are more important than words.

Mr. Day suggests that you write down what you're trying to communicate to your foremen and how you want your foremen to act. Then take a look at your own actions. By your actions, you should be communicating to the foreman four fundamental things: (1) that he is an individual of importance, (2) that he is responsible for results, (3) that he has freedom of action to do the job his own way, and (4) that he is a participating member of management.

A Critical Look at Foreman Compensation, C. W. Robinson

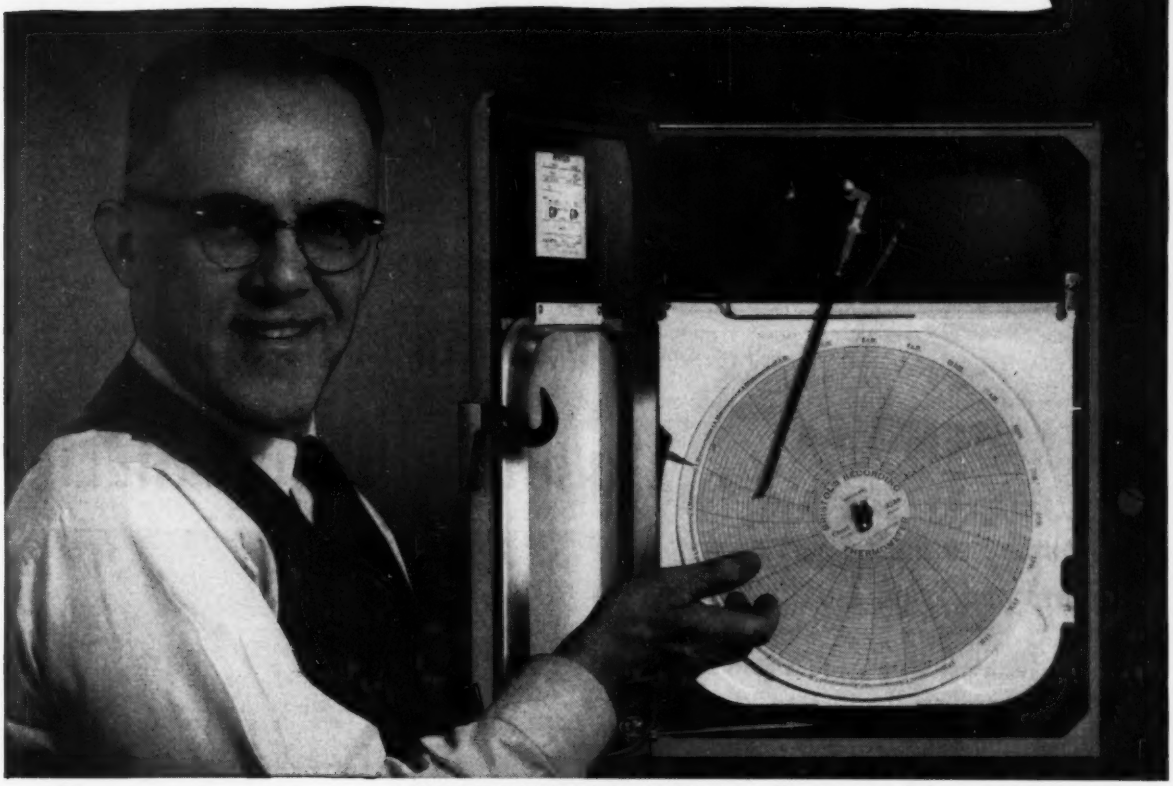
This critical look at foreman compensation is directed at the meaning of compensation rather than the actual amount of compensation. Emphasis on differentials between hourly paid workers and foremen, overtime, shift, and holiday premiums for foremen tends to equate foremen with workers instead of management. Mr. Robinson emphasizes that the important thing is to be aware of the dangers present in compensation policies.

He recommends that responsibilities and standards be defined for the foreman's job, and then compensation should be determined from the same salary policy that is applied to all management personnel. Mr. Robinson is an advocate of incentive plans for management.

Line Management's Responsibility for Human Relations, Douglas McGregor

Although there is nothing new here, Dr. McGregor has put some fresh twists to some good ideas. Managing, he says, is a

WHAT'S NEW AT BRISTOL . . . . WHAT'S NEW AT BRISTOL

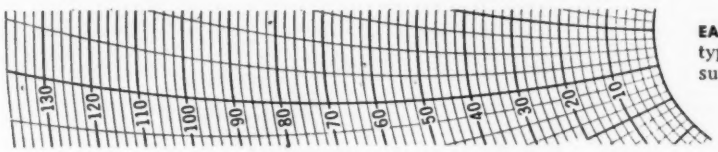


HIGH-SPEED RESPONSE AND ACCURACY are characteristic of the new Bristol Dual-Filled Vapor Pressure Thermometers. Unlike conventional vapor pressure thermometers, the Bristol units can be read with equal ease and accuracy throughout the entire measured range.

Another Bristol first — Dual-filled Vapor Pressure Thermometer with uniform linear scale

• These new instruments are the latest example of Bristol's continuing leadership in the field of industrial thermometry. They represent the first really important advance in filled-system thermometer design in more than 25 years. With this new development; all the valuable features of the vapor pressure system are retained. In addition to the linear scale, the elimination of ambient temperature effects makes new standards of accuracy possible.

Get the complete story on these rugged, precision instruments. Write for free 48-page bulletin T840. It will tell you all about typical installations, ranges, charts, bulbs and tubing. The Bristol Company, 103 Bristol Road, Waterbury 20, Conn.



EASY-TO-READ. This full-size section of a typical Bristol Dual-filled Vapor Pressure Thermometer chart shows the extreme clarity and definition of its uniform linear scale.

4.12

BRISTOL

POINTS THE WAY IN HUMAN-ENGINEERED INSTRUMENTATION

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

 For more information, write direct or use Reader Service post card.

8 Out of 10 Mills!

Switch to Pearl Starch with GAULIN HOMOGENIZERS

According to Recent Survey of 33 North and South Carolina Mills

Out of 33 North and South Carolina Mills using Gaulin Homogenizers 25 have switched to Pearl Starch. By converting starch mechanically instead of thermally, a Gaulin Homogenizer makes even a Pearl Starch into a finer size . . . with a stable and uniform viscosity.

It penetrates yarn lightly but evenly . . . bonds fibers together smoothly, firmly — without coating or matting and making them brittle. 28 of the 33 mills report more uniform sizing when it's Gaulin Homogenized. 26 claim a decrease in hard size. 18 notice improved penetration in the yarn.

Another 16 claim Gaulin Homogenized Size improves the quality of the warp yarn. All agree a Gaulin pays for itself in from 6 to 18 months. It will pay you to get the complete story on Gaulin guaranteed performance, write today.

SYNTHETICS — WORSTEDS

Mills are now preparing more uniform sizes for Synthetics and Worsteds, too, with a Gaulin Homogenizer. Sizes are made finer, faster and at substantially lower costs according to field reports.

Gaulin TRADE MARK

Manton-Gaulin
MANUFACTURING COMPANY, INC.
72 GARDEN ST., EVERETT 49, MASS.
World's Largest Manufacturer of Homogenizers, Triplex Stainless-Steel High Pressure Pumps, and Colloid Mills
Southern Representative: W. A. Hewitt, P. O. Box 961, Greenville, S. C.

ROLLWAY

Tru-Rol

ROLLER BEARINGS

The Right Balance Between Precision and Economy

Rollway's Tru-Rol Cylindrical Roller Bearings fill a well-defined need . . . afford the design engineer much wider latitude in balancing performance and reasonable cost.

A steel-cage bearing in the steel-cage cost range, Tru-Rol boasts true and precise rolling approaching that of bronze-separator types. That's because of the exclusive Rollway guide-lip . . . an ingenious, low-cost feature that prevents roller-skewing, sliding friction and excessive wear. Investigate Tru-Rol's outstanding record before you specify bearings in the medium price range.

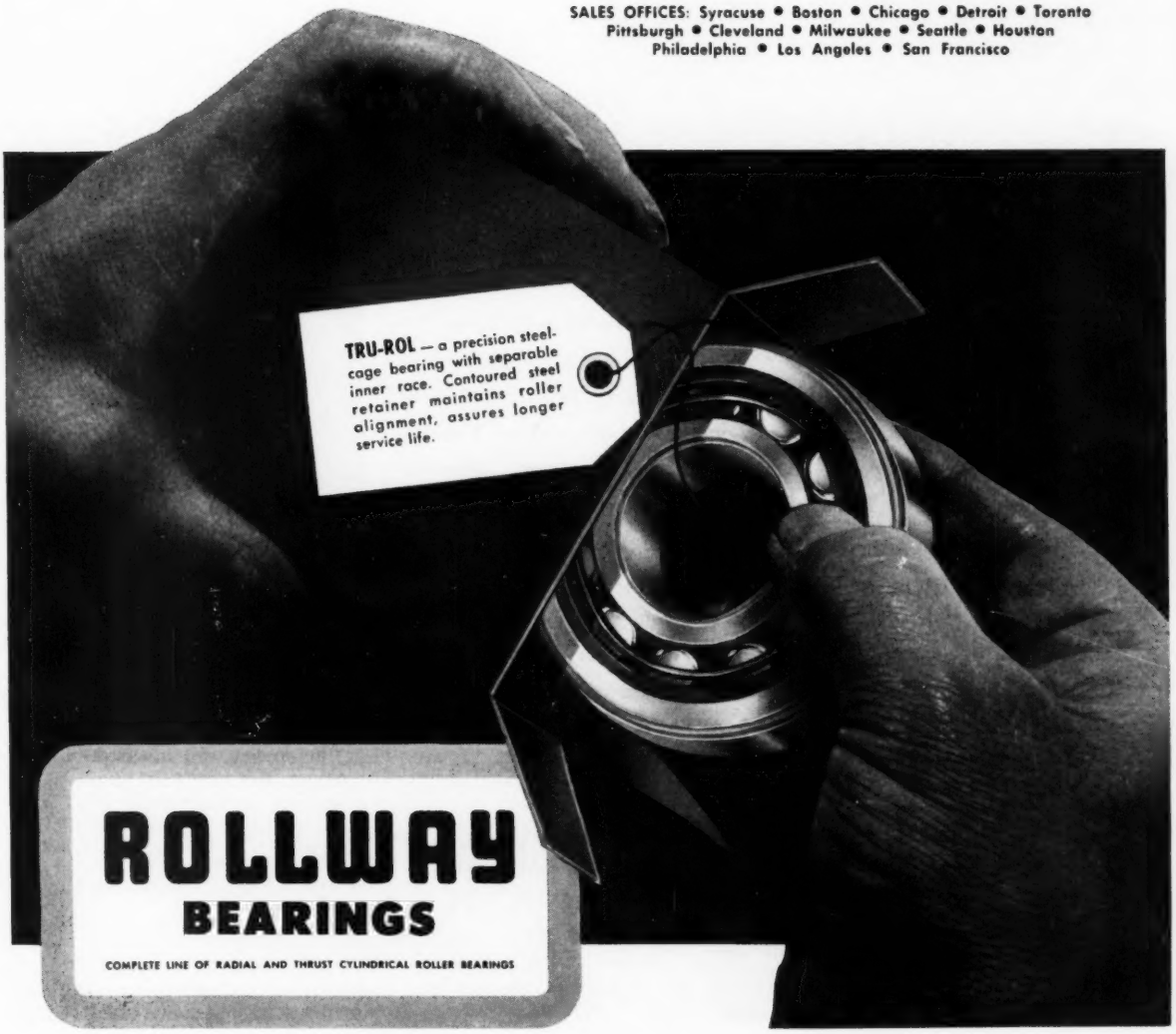
Our complete engineering and metallurgical services will gladly work with you on your problem. Simply write or wire any sales office. No cost. No obligation.

Rollway Bearing replacements are available through authorized distributors in principal cities. Consult your classified phone directory.

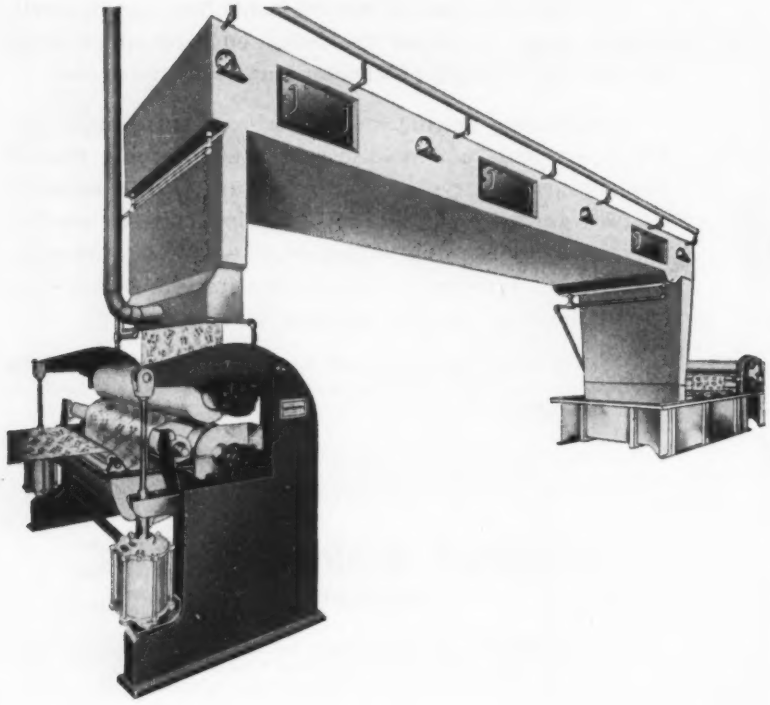
ROLLWAY BEARING CO., INC.

SYRACUSE, N. Y.

SALES OFFICES: Syracuse • Boston • Chicago • Detroit • Toronto
Pittsburgh • Cleveland • Milwaukee • Seattle • Houston
Philadelphia • Los Angeles • San Francisco


TRU-ROL — a precision steel-cage bearing with separable inner race. Contoured steel retainer maintains roller alignment, assures longer service life.
ROLLWAY
BEARINGS
COMPLETE LINE OF RADIAL AND THRUST CYLINDRICAL ROLLER BEARINGS

 For more information, write direct or use Reader Service post card



A new development in vat ageing a TOWER FLASH AGER—

Makes it possible for you to age *vat prints in range* with open-width washing at speeds far above conventional agers. This New Tower Unit makes it possible for Chemical Padding, Flash Ageing, and Open-Width Washing to become one continuous process. You could also include a dryer in this range. These Tower Flash Agers *maintain excellent color values* even when operating at high speeds and their careful design prevents water spotting. Savings in steam consumption are considerable.

A Tower Flash Ager is custom built to suit your situation — horizontally to utilize overhead space, keeping floors clear, or it can be adapted vertically when height is available. In most cases you needn't relocate your present washer. A Tower engineer will be glad to discuss Flash Ageing with you — at no obligation, of course.

TOWER IRON WORKS
50 BORDEN STREET, PROVIDENCE 3, RHODE ISLAND

TEXTILE DIVISION

nice way of saying influencing behavior. The key to influencing behavior is controlling the need satisfactions of people. Since only line supervisors can control (and take responsibility for) behavior, any delegation of authority to a staff function is taking away the managing job from the line. The foreman should play a greater role in training and, with staff help, a greater role in negotiations.

Typical kinds of need satisfaction such as wages, vacations, insurance plans, and recreational programs are satisfactions that are enjoyed away from the job. With emphasis on these satisfactions, work becomes a kind of punishment that leads to outside satisfactions.

What is needed is an emphasis on the positive satisfactions on the job. In this connection, mutual confidence is all-important: people who are confident of themselves and their associates do not demand security. The most positive aspect of any job is the growth potential of the man on the job. It's management's task to change "from thinking about headaches to thinking about the potentialities that exist in effective, enthusiastic collaboration."

1953 SUPPLEMENT TO BOOK OF ASTM STANDARDS, Part 7: Textiles, Soap, Water, etc.; American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.; heavy paper cover, 308 pages, $3.50.

Includes 47 standards covering textile materials: terms and definitions, testing machines, resistance to microorganisms, yarn construction, bast and leaf fiber, cotton, rayon, wool, and felt.

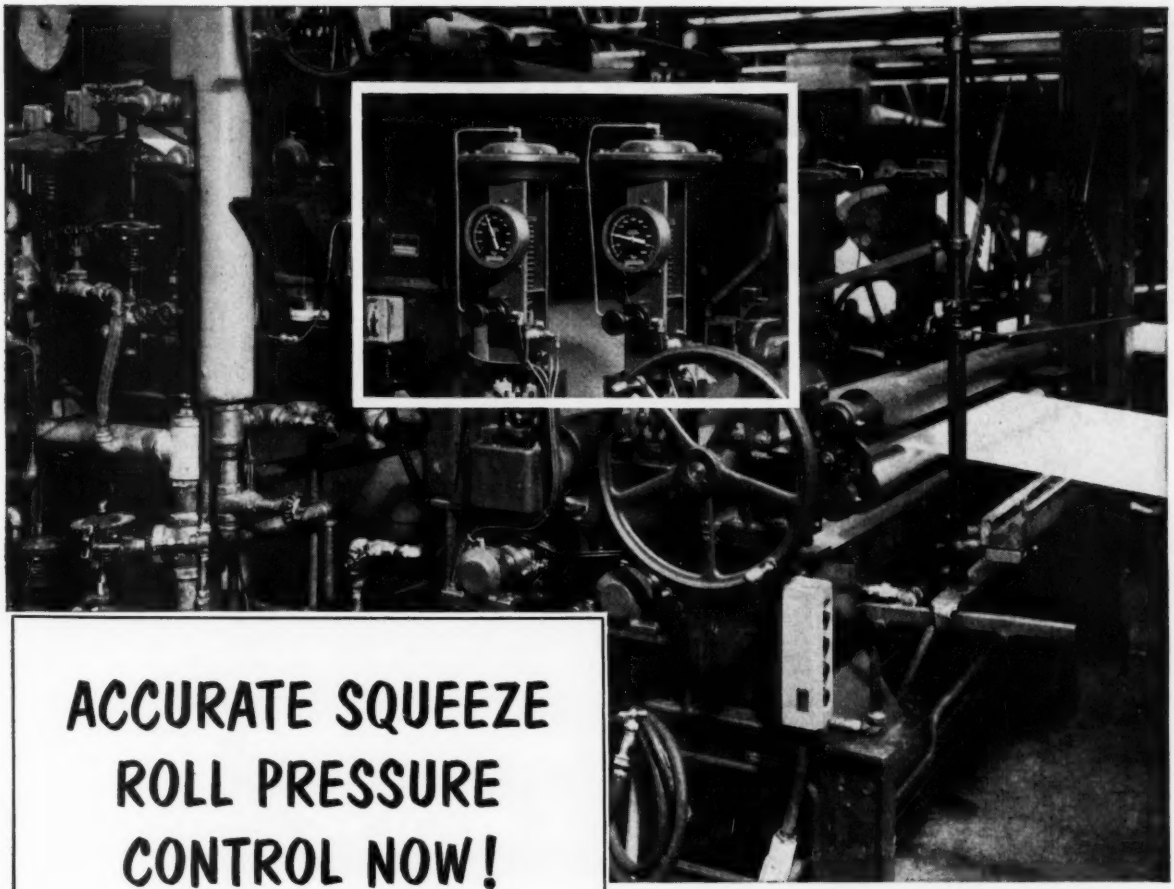
Mill Maintenance

Install a Cleaning System To Keep Lights Producing

The lighting system you install today will be producing little more than half its present light in a year or two if your lighting fixtures aren't cared for properly. As a result, you will be losing an appreciable amount of the money you invested in good lighting; and you will be wasting a large part of the money you spend for electricity to operate the lighting system.

Several Things Reduce Output

Many factors cause the light produced by lamps and fixtures to be seriously reduced. A few of the factors are: overloaded wiring, low voltage to the lamps, unreplaced burned-



ACCURATE SQUEEZE ROLL PRESSURE CONTROL NOW!

Taylor Squeeze Roll Pressure Controls in use on a high speed Rayon Slasher installed in a well-known Southern Mill.

Immediate delivery can be made on this latest Taylor development. The new Taylor Squeeze Roll Pressure Control measures and controls actual *pounds of pressure* applied *directly* to each end of the roll . . . unaffected by friction or leaking air.

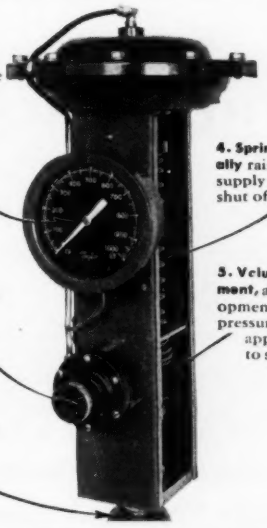
RESULT: 1. No soft-spots in yarn. Out-of-round roll conditions quickly detected. **2.** Uniform penetration of size.

One unit is installed on each end of the roll. Each can apply up to 1000 pounds pressure, for a total pressure of 2000 pounds plus the weight of the roll.

For calendar rolls, dye padder rolls, and other higher pressure applications, a similar unit is available with a 2500 pound capacity . . . to deliver up to 5000 pounds pressure plus the weight of the roll, when used in pairs.

Taylor Squeeze Roll Pressure Control has been thoroughly field tested in several textile mills, for over a year. A logical outgrowth of Taylor's development of the volumetric measuring principle for difficult tension and pressure measuring jobs. Other units are available for pressures up to 200,000 lbs. and tensions from 5,000 to 20,000 lbs.

For full details on Taylor's Squeeze Roll Pressure Control, or for help on any similar pressure control problem write: Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.



1. Easy-to-read dial gives direct pressure readings of actual roll pressure. Also available with remote indicating or recording for panel use.

2. One knob adjusts *actual roll pressure.*

3. Unit is mounted directly over the journal. Pressure is applied directly to the roll.

4. Spring automatically raises roll when supply pressure is shut off.

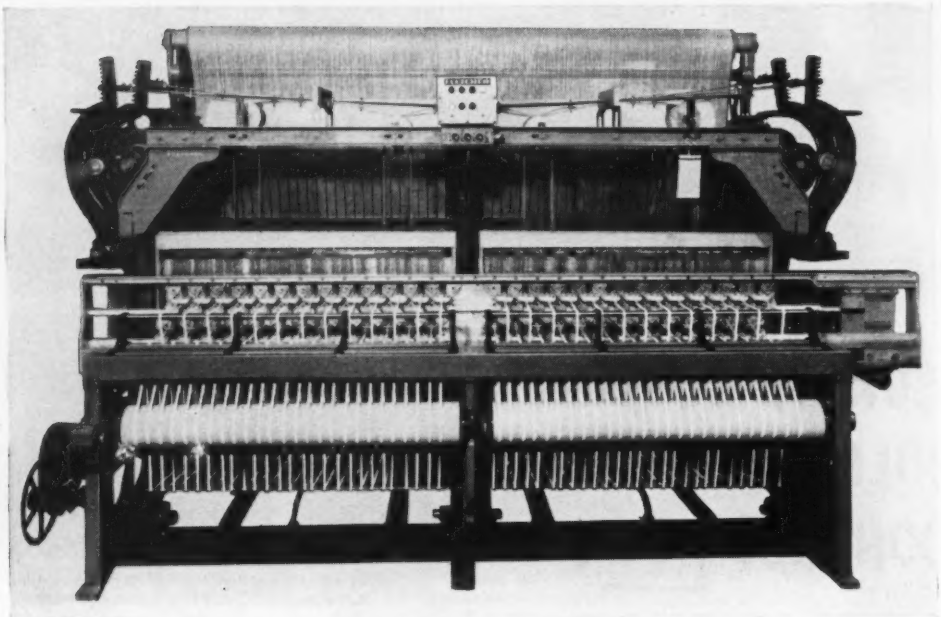
5. Volumetric element, a Taylor development, measures pressure being applied directly to squeeze roll.

Instruments for indicating, recording and controlling temperature, pressure, flow, liquid level, speed, density, load and humidity.

Taylor Instruments MEAN ACCURACY FIRST

A NEW LOOM !

for higher speeds and higher efficiencies . . .



. . . from "THE WORLD'S LARGEST SPECIALISTS IN NARROW FABRIC LOOMS"

These Semi-Automatic Looms are Custom Built. They come in different lengths with any style of batten, several types of letoff and one or two cam motions — heavy duty for weaving heavier fabrics and small index for over nine harness construction.

Call or write for a Fletcher Sales Engineer to tell you how these remarkable looms will Save Money — *Make* Money — weaving Ribbon, Tape, Light Webs and numerous other narrow fabrics.

FLETCHER WORKS

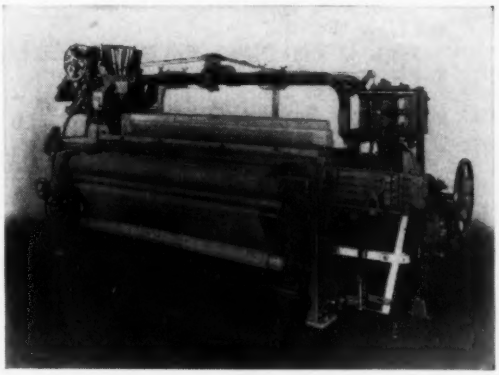
223 GLENWOOD AVE. PHILADELPHIA 40, PA. ESTABLISHED-1850

No fabric marking with this high-friction take-up roll cover

If you want to get firm, even take-up tension, without the risk of marking high-count fabrics, try Armstrong's NO-732 Accotex® Roll Covering.

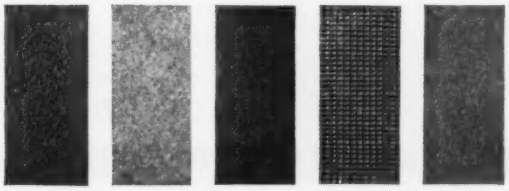
NO-732 is made of a new type of synthetic rubber compound that offers amazing holding power—up to twice what you'd expect from rubber materials. At the same time, NO-732 has a smooth surface that won't mark even the most delicate work.

Test a sample of this roll cover yourself. Rub it on your shirtsleeve or the cloth you weave. Notice how it grips. Feel its smoothness with your fingers. Then try NO-732 on your looms. Your Armstrong representative will be glad to give you samples. Write Armstrong Cork Company, Textile Products Dept., 6706 Dauphin St., Lancaster. Pa.



ARMSTRONG'S
Take-up Roll Covers

ARMSTRONG OFFERS A FULL LINE OF TAKE-UP ROLL COVERINGS



Armstrong can supply a cover to fit your needs—in synthetic rubber, plain cork, cork-and-rubber, or gridded cork. Available for export.

Your Industrial Future... in a land of beginnings

Northeastern North Carolina

Here, on Roanoke Island, the *first* English Settlement was set up in 1585.

Here, was born Virginia Dare—the *first* white child in the New World.

Here, at Kitty Hawk, the Wright Brothers made their *first* successful power flights.

Here, in a Land of Beginnings—at "THE TOP OF THE SOUTH"—can be *your* industrial future.

Here, is a location for *your* industry—large or small—and a plentiful supply of low-cost, dependable Electricity.

IN NORTHEASTERN NORTH CAROLINA, at the "TOP OF THE SOUTH", the people are really friendly to new and expanded industry for, with traditions going back to Colonial days, they know that more invested capital means greater opportunities for workers who realize what free American enterprise can do.

Our Area Development Department can help *you* find the location you want for your industry. We have the information on sites, natural advantages and technical details. A letter, postal card or telephone call will start this confidential service to you.

AREA DEVELOPMENT DEPARTMENT

VIRGINIA ELECTRIC AND POWER COMPANY

RICHMOND 9, VIRGINIA

out lamps, and darkened paint on walls and ceilings. Each of these causes and their results are serious, but any one of them, other than lamp replacement, can be corrected by a single maintenance action.

Loss of light as a result of the accumulation of dust and dirt is usually the most serious cause of light depreciation. But this problem can easily be licked by a determined cleaning schedule. The seriousness of not cleaning fixtures is magnified because dirt losses are not a single loss but are accumulative with time. The dirt losses also add to the other losses.

Hold Lamps to 70% Value

Most lighting installations are designed on the basis that the average maintained level of illumination will be 70% of the initial values. The initial values for fluorescent lighting are those that result after 100 hrs. of lamp operation with clean fixtures. Unfortunately, few lighting installations are actually maintained at 70% of initial values.

In most cases, lamps are not maintained because management considers cleaning a costly overhead operation for which money is spent for labor with no tangible returns. Actually, that assumption is wrong. In fact, it is better to install considerably less equipment initially and spend the money saved from the initial investment to keep the fixtures clean. The result would be equal light with less money spent for electricity to obtain the same lighting levels.

Don't Lose Half Your Lamps

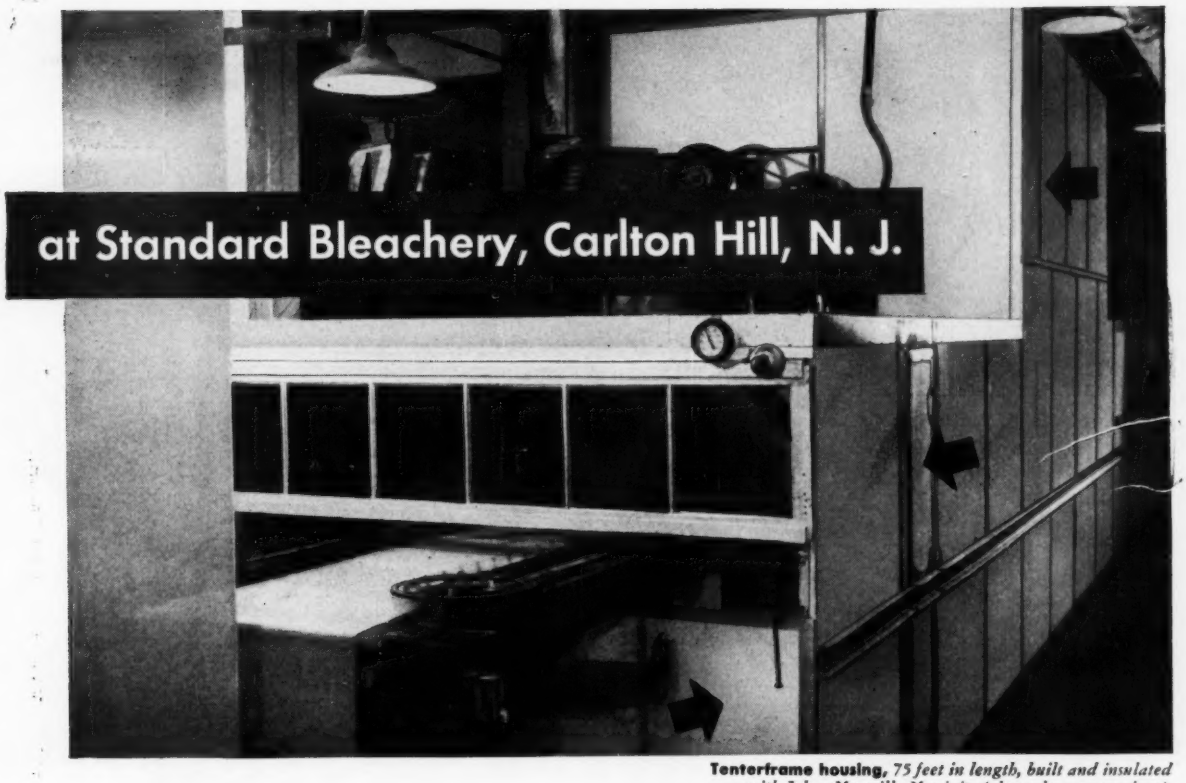
As an example of the cost of poor maintenance, let's consider that you have an installation of 1,000 fluorescent twin-lamp fixtures, each consuming approximately 100 w. Such a new lighting installation would cost close to $50,000; and at $0.02 per kwh. for electricity, the installation would cost $2 per hr. to operate. If these fixtures were allowed to operate without cleaning, probably 50% of the initial light would be lost by dirt accumulation. This means that half of the $2 operating cost would be wasted and that half of the $50,000 investment would also be unproductive.

Fixtures cannot be maintained at initial-lighting output because they will get dirty, but the degree of loss can be controlled within boundaries that can be justified from a cost standpoint.

Cash Savings Pay for Cleaning

Suppose the same installation of 1,000 fixtures were maintained to an

For more information, write direct or use Reader Service post card.



Tenterframe housing, *75 feet in length, built and insulated with Johns-Manville Marinite (shown by arrows above)*

Tenter frames run faster in housings built of MARINITE the corrosion-resistant, structural insulating material

Standard Bleachery has obtained 3 important advantages by rebuilding tenterframe housings with Johns-Manville Marinite*, the structural insulating material.

(1) Marinite provides better heat control than the material formerly used . . . thus permitting faster drying and increased machine speeds. (2) Marinite reduces heat losses, cuts down fuel bills. (3) Marinite does not rot or corrode . . . has required no maintenance in over three years of service.

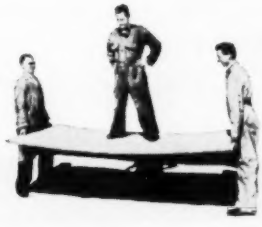
J-M Marinite is an asbestos material which combines structural strength with efficient thermal insulation. It offers many advantages for driers, ovens and other high-temperature equipment.

Marinite *simplifies construction* because equipment can be built and insulated in one step, with fewer structural supports required. Marinite *aids production* because it conserves heat and fuel, provides even heat distribution. Marinite *cuts maintenance* because it resists moisture and steam . . . has virtually unlimited service life . . . needs no finish or protective facing. To learn how Marinite can improve your equipment, write Johns-Manville, Box 60, New York 16, New York.

*Marinite is a registered Johns-Manville trade mark

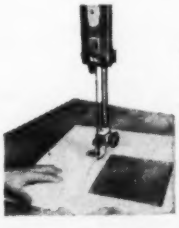
MARINITE builds and insulates in one operation

large sheets speed construction, afford maximum heat control



MARINITE is strong

provides structurally strong monolithic walls—requires minimum angle-iron framing

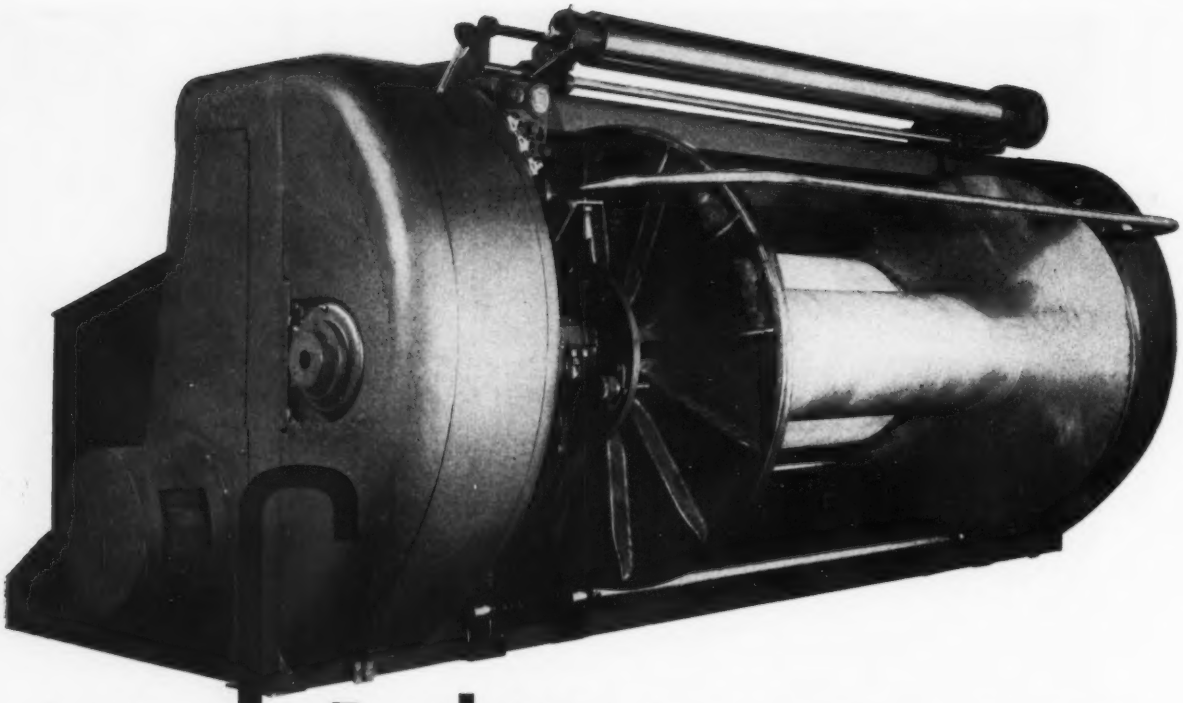


MARINITE is easily worked

may be cut, drilled, shaped with ordinary woodworking tools, by plant labor

Johns-Manville *FIRST IN* INSULATION

MATERIALS • ENGINEERING • APPLICATION



New Cocker High Speed Warper for Cotton

Special Features

New — Spindle Driven Driving from both ends of beam insuring even distribution of load in starting and stopping.

New — Patented Air Doffing.

Control of Density of yarn on beam at all times, through air operated pressure roll.

Patented differential constant yarn speed control.

New — Operating speeds up to 1000 yards per minute.

Beam flange diameters up to 40 inches.

Any operating speed selected—by setting convenient rheostat control.

Gradual acceleration from crawl to operating speeds.

Powered by 10 H. P. DC motor and generator.

Individual braking of beam pressure roll and carrier roll by means of Rheostat Control.

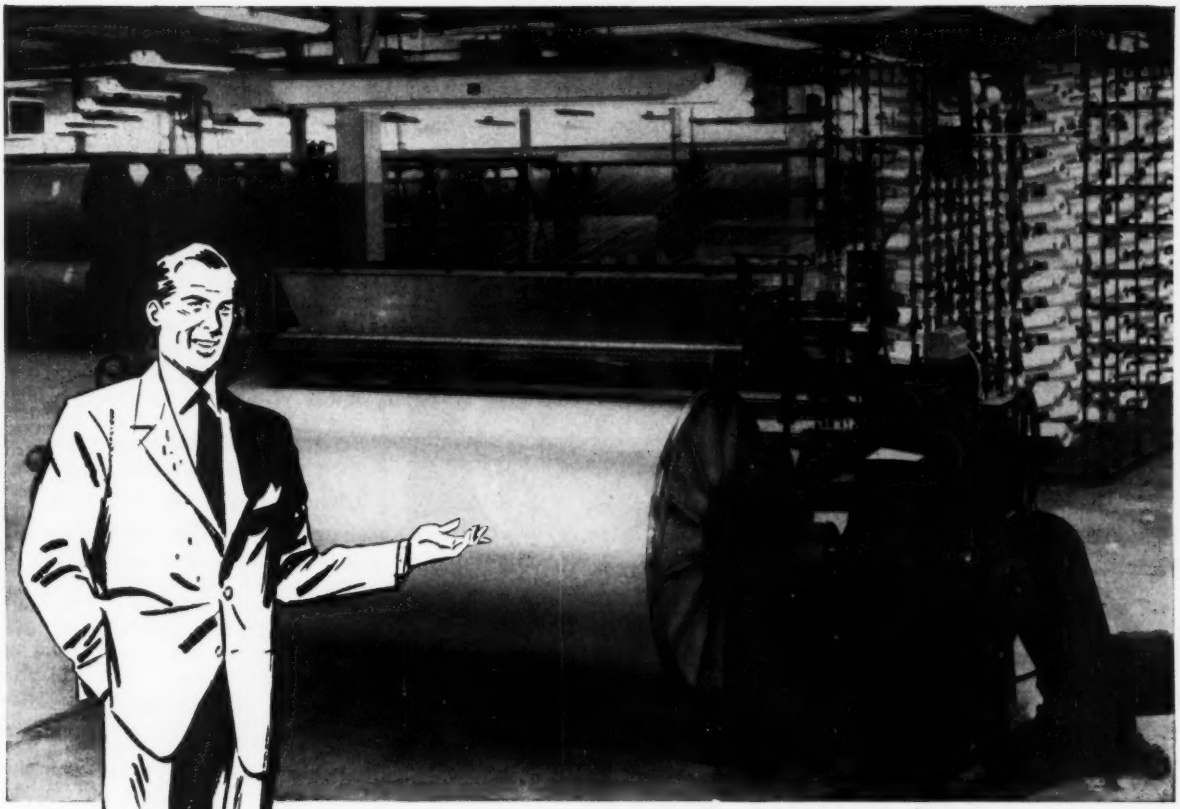
Standard equipment on all Machines—Pre-determining Counter Clock, Electric Speed Indicator, and Combs.

Write or wire for further information.

THE LEADER AROUND THE WORLD

COCKER Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT



400,000

Aluminum Warp Beams now in use...

AND NOT ONE FAILURE FROM DEFLECTION OR CRUSHING!

First introduced in 1938, aluminum warp beams number over 400,000 now in service! And, in all these years, *there has never been a single failure of an aluminum beam from deflection or crushing!*

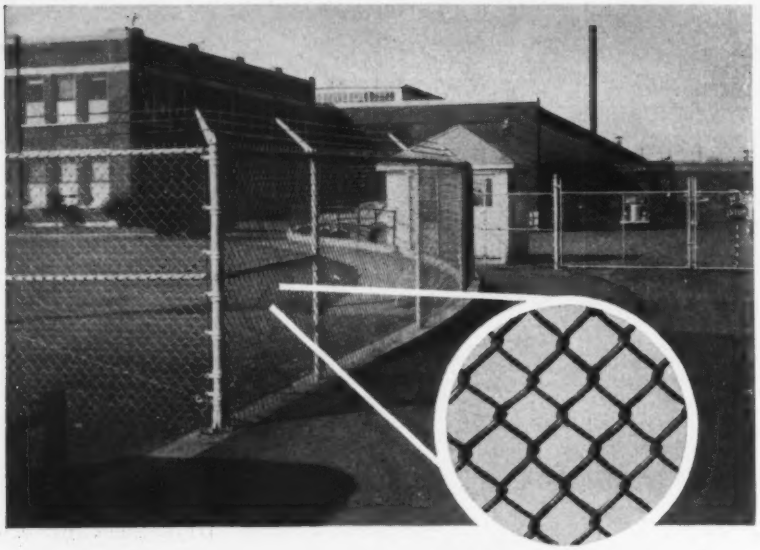
Clean, strong, lightweight aluminum warp beams increase machine speeds—decrease handling and stacking effort. Because they are metal, *they will not splinter!* In addition, they will not groove under the tremendous winding pressures of synthetic yarns. Beams of light-but-strong Alcoa® Aluminum Extrusions and Castings or Forgings are available from many of the country's leading beam manufacturers—including:

- **HAYES INDUSTRIES, INC.**
- **HUBBARD SPOOL COMPANY**
- **MILTON MACHINE WORKS, INC.**
- **BRIGGS-SHAFFNER**

For additional information on lightweight aluminum beams—made from a specially developed Alcoa Aluminum Alloy, write: Aluminum Company of America, 2183-F Alcoa Building, Pittsburgh 19, Penna.

Alcoa Aluminum

ALUMINUM COMPANY OF AMERICA



CYCLONE FENCE...

the "weave of protection" for textile plants

THE weaving of fabrics and materials is your main business, but here's another weave that should be your concern, too. It's Cyclone woven Chain Link fabric and it's used to make Cyclone Fence — the most widely-used property protection fence in the world.

Cyclone Fence is especially designed for use around all types of manufacturing plants—to discourage vandals, keep out thoughtless trespassers and simplify the regulation of entrance and exit traffic at authorized gates. Cyclone Fence is available in several different heights, with or without barbed wire toppings to meet your individual requirements. Our experienced engineers will be happy to give you free advice.

You *can* buy cheaper fence than Cyclone, but it will cost you more per year. Cyclone gives full value for your dollar. Nothing but brand-new, top-quality material is used throughout. Post and top rails are heavy and rigid, so they'll never buckle or sag. Gates won't drag. The chain link fabric is woven from heavy steel wire and galvanized after weaving for greatest resistance to rust and corrosion. And Cyclone is erected by full-time, well-trained experts—so that it will stay trim and good-looking for years.

NO JOB IS TOO LARGE—NO JOB IS TOO SMALL FOR CYCLONE*

CYCLONE FENCE DEPARTMENT, AMERICAN STEEL & WIRE DIVISION
UNITED STATES STEEL CORPORATION

WAUKEGAN, ILLINOIS · SALES OFFICES COAST TO COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Cyclone Fence, Dept. W-64, Waukegan, Ill.

Please send me without obligation, complete information on Cyclone Fence and Gates.

Name .....

Address .....

City ..... State .....

*Cyclone is the trade-mark name of fence made only by Cyclone. Accept no substitute.

USS CYCLONE FENCE

UNITED STATES STEEL

average illumination level of 70% of initial value as it was originally planned to operate. Then the average loss of value of the electric bill would be 30% of $2 per hr., or $0.60 per hr. rather than $1.00 per hr. In a single-shift operation of 2,000 hrs. per year, an added value of $800 would be received from the money spent for electricity. That $800 would pay for a lot of cleaning. In fact, it would pay for two cleaning operations per year.

In the $50,000 installation case discussed, the reduction of losses from 50% to 30% is equal to 20% of the initial investment cost, or $10,000; and if the figures are amortized on a 10-year basis (excluding interest), there's another $1,000 per year.

Cleaning Has Other Advantages

But let's look at the problem another way. If you're really willing to operate your lighting fixtures with a 50% loss and consider that amount of light sufficient, you can install 20% less equipment and save $10,000 of the installation cost. You will also save 20% of your electric bill with periodic maintenance to hold light losses to 30% of the initial value.

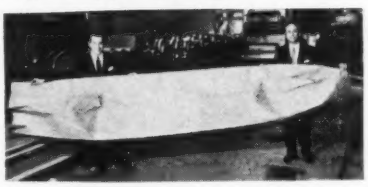
In addition to savings from a properly maintained lighting installation, the added illumination results in higher production, better workmanship, and improved appearance.

Champion Lamp Works

Textile Equipment News

CONTINUED FROM PAGE 152

Big Shipping Bag



LARGEST PAPER BAG in the world can be used to ship rugs, carpets, and rolls of cloth, according to the manufacturer, Equitable Paper Bag Co., Inc., 45-50 Van Dam St., Long Island City, N. Y. Rugs up to 12x15 ft. can be packed in the bags.

Circle T-30 on Reader-Service Card

Strip Cutter Improvements

Two improvements have been made on the collarette and strip-cutting machine made by J. A. Firsching & Son, Inc., 423 Broad St., Utica, N. Y. An automatic cloth loader automatically feeds the cloth onto the table from

Take advantage of these Free Celanese technical bulletins

In order to help mill customers and serve the textile industry generally, Celanese makes the following technical pamphlets available without charge in the quantity that you need. These bulletins have been prepared by the Textile Division, Celanese Corporation of America.

1. "Cone-Over-Cone Plying for 'Colorandom' Effects"—Complete instructions, including working blueprints, for plying yarn, quilling and weaving random colored fabrics.

2. "Processing Fortisan* Yarn"—Yarn characteristics, warping on both cotton and silk systems, slashing, quilling, weaving, throwing, dyeing and finishing of this super-strong Celanese* rayon.

3. "Solvent Dyeing of Fabrics Containing Celanese* Acetate"—Information and processing suggestions to obtain added wet fastness properties in fabrics containing acetate fiber by means of solvent dyeing.

4. "Dyehouse Processing of Fabrics Containing Celaperm*"—Finishing techniques for fabrics containing Celaperm acetate yarns with table summarizing Celaperm fastness to bleaching, stripping, cross dyeing and after treatments.

5. "Acetate Blends of Improved Performance"—Engineering blends of acetate and rayon, and acetate, rayon and nylon for greatest performance characteristics . . . finishing techniques to enhance these characteristics further . . . construction, dyeing and performance characteristics of acetate and wool blends.

6. "Silicones versus Can Sticking"—Coatings on slasher cans and how this treatment helps prevent broken filaments, rough edges and minimizes water spots.

7. "Physical, Chemical and Electrical Properties of Celanese* Acetate Yarn Pertaining to Acetate as an Electrical Insulating Material."

8. "Reduction and Control of Reed Marks" (available soon)—Preventive steps to eliminate warp streaks in fabrics caused by faulty or damaged reeds . . . making and using the triple spring reed.

9. "Handbook of Celaperm* Yarn Performance" (available soon)—Describes color performance of this yarn against all normal color hazards, including washing, wet or dry crocking, sunlight deterioration, rubber degradation resistance.

10. "Preparation of Celanese* Acetate Tricot for Printing." (available soon)

Celanese

Corporation of America

For your copies of any of the above bulletins, write to: Customer Service Dept., Textile Division, Celanese Corporation of America, Box 1414, Charlotte, North Carolina.

*Reg. U.S. Pat. Off.

Another Proved Performer from West Point

THE MULTI-CYLINDER SLASHER

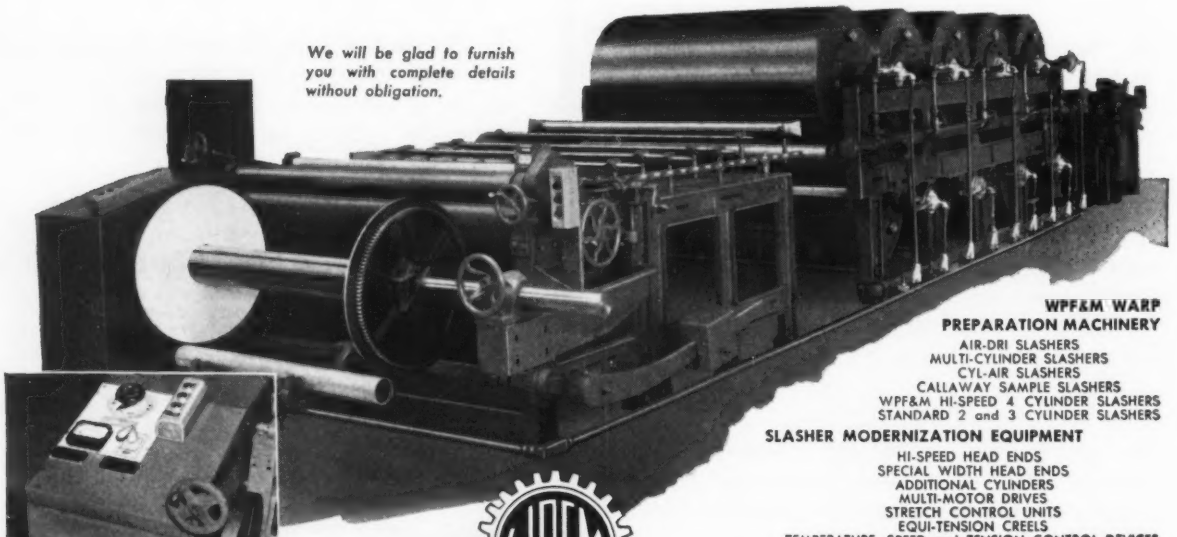
with 5, 7, 9, or 11 30" CYLINDERS

In actual mill operations, the versatile WPF&M Multi-Cylinder Slasher has proved it can consistently produce a high-quality warp on a wide range of spun and filament fibers at high speeds and low operating costs.

The Multi-Cylinder Slasher is designed for and furnished with a superior slasher drive . . . the mill-proved multi-motor drive which completely eliminates the friction clutch and friction compensating devices *along with friction maintenance.* This all-electric drive provides a smooth constant tension wind-up of the loom beam and packs more yards on the loom beam. Either mechanical or electrical type tension control between cylinders and size box, and between head end and cylinders, is available.

The WPF&M Multi-Cylinder Slasher is one of the complete line of modern Slashers manufactured by the West Point Foundry & Machine Company—specialists in Slasher Room machinery and equipment.

We will be glad to furnish you with complete details without obligation.



PUSH BUTTON CONTROL of multi-motor drive provides smooth and fast response to necessary speed changes. *No mechanical friction clutch.*

WPF&M WARP PREPARATION MACHINERY

AIR-DRI SLASHERS
MULTI-CYLINDER SLASHERS
CYL-AIR SLASHERS
CALLAWAY SAMPLE SLASHERS
WPF&M HI-SPEED 4 CYLINDER SLASHERS
STANDARD 2 and 3 CYLINDER SLASHERS

SLASHER MODERNIZATION EQUIPMENT

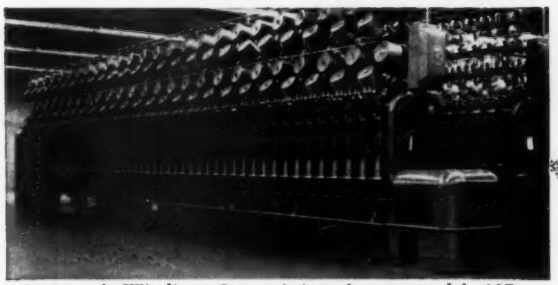
HI-SPEED HEAD ENDS
SPECIAL WIDTH HEAD ENDS
ADDITIONAL CYLINDERS
MULTI-MOTOR DRIVES
STRETCH CONTROL UNITS
EQUI-TENSION CREELS
TEMPERATURE, SPEED and TENSION CONTROL DEVICES
SIZE BOXES, SIZE KETTLES, and SIZE PUMPS

CORDUROY CUTTING MACHINES AND BRUSHERS

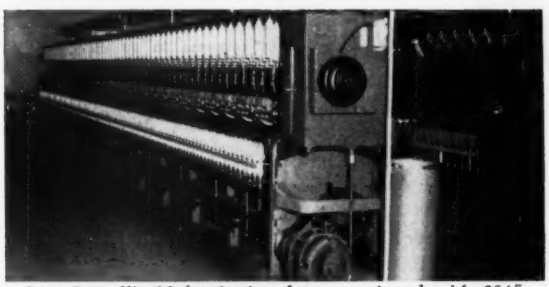
WEST POINT FOUNDRY & MACHINE CO.

WEST POINT, GEORGIA

Here's why CHATHAM MFG. CO. uses HERR Conical Rings!

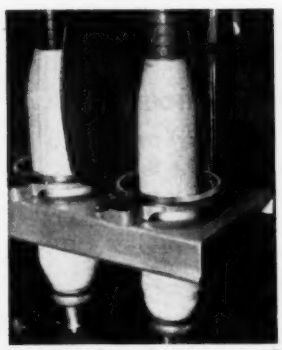


Universal Winding Co. twisting frame, model 10B, equipped with 4¾" HERR Conical Rings.



Saco Lowell's SS-4 spinning frame equipped with 2¾" HERR Conical Rings.

Close-up of the 4¾" HERR Conical Ring used in twisting worsted yarn at the Chatham Mfg. Co.



HERR 2¾" Conical Rings used in spinning worsted yarns.

Says Mr. T. B. Phillips, Superintendent of the worsted division: "In our flexible system, we would be limited with a flange-type ring. The HERR Conical Rings are adaptable to our requirements". The Chatham Manufacturing Co. of Elkin, N. C. is a multi-million dollar firm noted for quality woolen and worsted fabrics.

HERR CONICAL RINGS

easily adapt your equipment for higher speed production of any textile fiber or blend. They prevent yarn breakage, give smoother, cleaner yarn and permit heavier, more uniform doffs. No rewicking is required. You will have fewer ends down because HERR Rings compensate for and equalize yarn tension variations.

HERR *Lightweight* FLYERS

give you light tensions at profitable high speeds on all stretch nylon, crepe and Helanca yarns. Perfect balance means accurate yarn control and reduces split filaments or breaks.

Write today for help on your problem!

HERR

MANUFACTURING CO., INC.

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One of the South's largest varieties of steel warehouse products assures you of in-stock items. 15 main line railroads and 75 major motor freight lines assure you of rapid delivery. Add the South's most modern warehouse facilities and you have a combination hard to beat when you need steel in a hurry—one piece or a carload. Call us and see what service *really* means.

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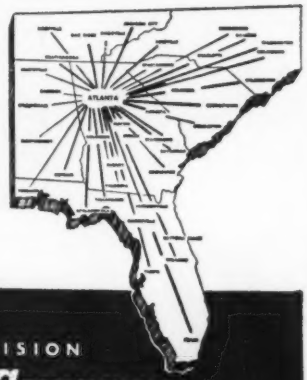


AMERICAN STEEL WAREHOUSE ASSOCIATION — BETTER DISTRIBUTION

WAREHOUSE DIVISION

Atlantic Steel Company

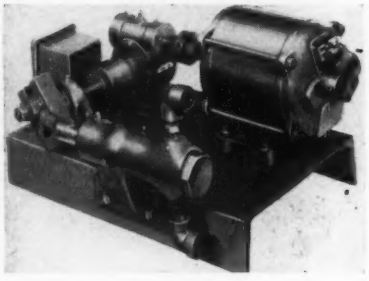
575 14th STREET, N.W. ATLANTA 1, GEORGIA • EMerson-3451

the roll as the operator needs it; and new wheel guides are said to make it 100% easier for the operator to guide the cloth. By pressing a foot lever, the cloth is drawn from the roll to the table.

The machine is made with an 18-in. cutting surface, and as many strips can be cut at one time as desired.

Circle T-31 on Reader-Service Card

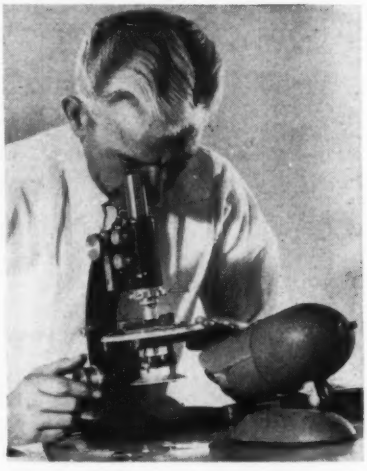
Pump Turns Over Once In Response to Signal



CONTROLLED-VOLUME PUMP for use in proportional-feed systems is motor driven. A one-revolution clutch permits one pump revolution in response to an electrical signal. Made by Milton Roy Co., 1300 E. Mermaid Lane, Philadelphia 18, Pa., the pumps are available in capacities from 1 pt. to 1,350 gals. per hr.

Circle T-32 on Reader-Service Card

Polarizing Microscope Has a Ball-Bearing Stand



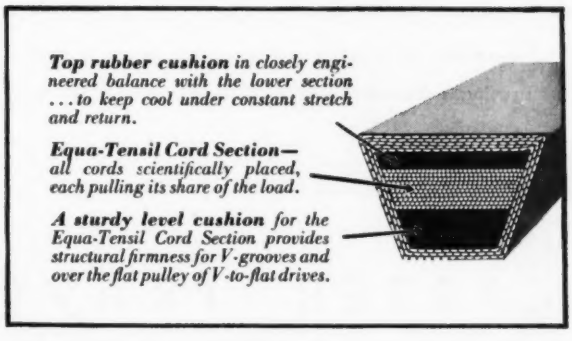
NEW POLARIZING MICROSCOPE for the textile industry features a ball-bearing, low-position, fine-focusing stand. Made by Bausch & Lomb Optical Co., 635 St. Paul St., Rochester 2, N. Y., the instrument is shown with a Micro-Lite illuminator. It can also be furnished with a built-in substage illuminator. Other features are a ball-bearing revolving stage and ball-bearing nose piece. Achromatic 10X and 45X objectives are standard equipment.

Circle T-33 on Reader-Service Card

Handles MORE Horsepower... the new U. S. ROYAL SUPER-SERVICE BELT

Meet the *toughest* V-belt in the "U. S." Line. Delivering 40% more horsepower than standard belts, it also absorbs greater shock loads. Ideal where space is limited or where you want to decrease the number of belts required in order to use stock sheaves.

U.S. Royal® Super-Service is a "natural" for troublesome drives, especially heavy shock-load drives. High tensile strength, minimum stretch. All standard multiple sizes. Order from your distributor, or call any of United States Rubber Company's 25 District Sales Offices or write to address below.


***Top rubber cushion** in closely engineered balance with the lower section ... to keep cool under constant stretch and return.*
***Equa-Tensil Cord Section**— all cords scientifically placed, each pulling its share of the load.*
***A sturdy level cushion** for the Equa-Tensil Cord Section provides structural firmness for V-grooves and over the flat pulley of V-to-flat drives.*

A COMPLETE DRIVE SERVICE

MULTIPLE V-BELTS • F. H. P. V-BELTS • SHEAVES
FLAT BELTS AND BELTING • SPECIAL PURPOSE BELTS

"U. S." Research perfects it.
"U. S." Production builds it.
U. S. Industry depends on it.

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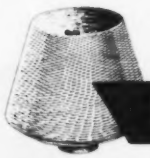
MECHANICAL GOODS DIVISION · ROCKEFELLER CENTER, NEW YORK 20, N. Y.

Hose • Belting • Expansion Joints • Rubber-to-metal Products • Oil Field Specialties • Plastic Pipe and Fittings • Grinding Wheels • Packings • Tapes Molded and Extruded Rubber and Plastic Products • Protective Linings and Coatings • Conductive Rubber • Adhesives • Roll Coverings • Mats and Matting



BETTER YARNS

.....AT FASTER SPEEDS

.....AT LOWER COSTS

with

CARTER TRAVELERS

QUALITY GOES UP—because CARTER TRAVELERS are scientifically designed and manufactured to meet specific quality standards for individual yarns.

PRODUCTION GOES UP—because CARTER TRAVELERS have the essential shape, surface and temper to perform with dependable efficiency at maximum spindle speeds.

COSTS COME DOWN—because CARTER TRAVELERS are precision-matched to expensive rings with a money-saving reduction of wear and down time to an absolute minimum.

QUALITY CONTROL

The absolute uniformity of weight, temper and shape—the always high quality—of CARTER TRAVELERS is carefully controlled throughout every manufacturing process by the facilities and personnel of a large, modern metallurgical laboratory.

CARTER TRAVELER COMPANY

Division of A. B. CARTER, INC., GASTONIA, N. C.

Manufacturers of The Boyce Weavers Knotter

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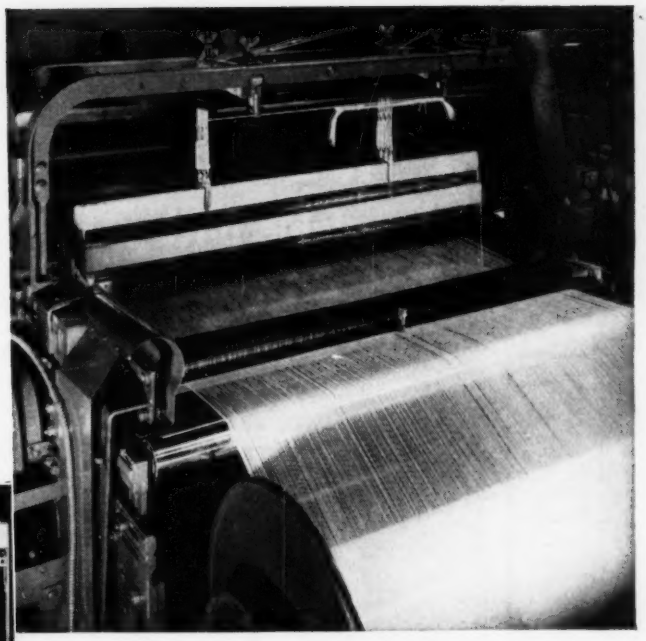
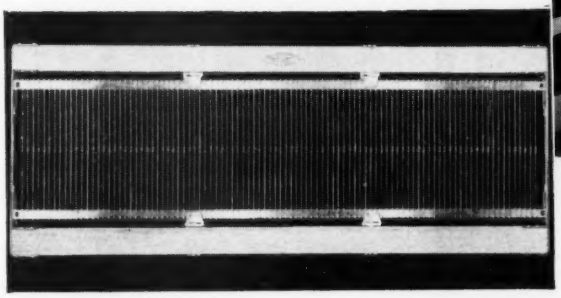
Hugh Williams & Co.....47 Colborne St., Toronto 1, Canada

For more information, write direct or use Reader Service post card.

How Stainless Steel Reeds and Heddles CUT COSTS





Cutting maintenance costs at the loom is a sure bet when reeds and heddles are made of Armco Stainless Steel wire.

"They accumulate less scum, and can be cleaned much faster and easier than parts made of plated wire," according to a manufacturer of "synthetics."

"Cleaners have no harmful effect on the surface of stainless steel," he said. "This certainly simplifies our clean-up work."

NO RUST SPOTS

Yarns and threads get off to a clean start when reeds and heddles are Armco Stainless Steel. You needn't worry about rust spots or dirt-embedded knots — a costly problem with ordinary heddles and reeds.

Lower cleaning and maintenance costs are the story when other parts, such as bobbin boards and spindles, are made of Armco Stainless.

Get complete information first-hand from fabricators who use Armco Stainless Steels. If you do not know the names of leading suppliers of stainless heddles, reeds, bobbin boards and spindles, just fill in the coupon on this page.

We'll be glad to put you in touch with them.*

*Armco Stainless Steel sheets, strip and plates are also widely used by fabricators of textile wet-processing equipment.

ARMCO STEEL CORPORATION

4823 Curtis St., Middletown, Ohio

Export: The Armco International Corp.

ARMCO

MAIL THIS FOR DATA

ARMCO STEEL CORPORATION

4823 Curtis Street, Middletown, Ohio

WHO MAKES THIS EQUIPMENT?

☐ Heddles ☐ Reeds

☐ Spindles ☐ Bobbin Boards

NAME_____ TITLE_____

COMPANY_____

STREET_____

CITY_____ ZONE____ STATE_____

Gives low cost, economical variable speed. Both flanges move simultaneously. Positive locking eliminates fretting corrosion.

Adjustment for variable pitch quickly and easily accessible from either side of sheave. Up to 3 to 1 speed range ratio.

Single wide range belt for higher HP capacity—5 to 20 HP.

For specific information on Wood's new Variable Speed Drive write for Bulletin #796.

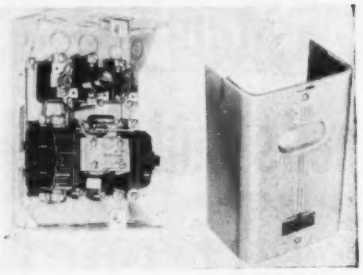
T. B. Wood's SONS COMPANY

CHAMBERSBURG, PA.

Mechanical Power Transmission Manufacturers Since 1857

BRANCHES: CAMBRIDGE, MASS. • NEWARK, N. J. • DALLAS, TEXAS • CLEVELAND, O.

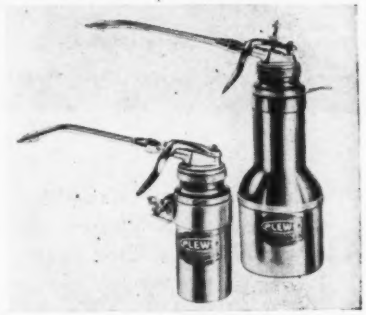
Three-Coil Starter Protects Third Current



THREE-COIL OVERLOAD PROTECTION is provided by this starter for industrial motors. According to the manufacturer, Cutler-Hammer, Inc., 315 N. 12th St., Milwaukee 1, Wis., chances are one in three that the high current line in a wye-delta system will be unprotected with two-coil overload protection. Four heating adjustments can be made from one coil. Protection is said to be within 3% of the usable motor load.

Circle T-34 on Reader-Service Card

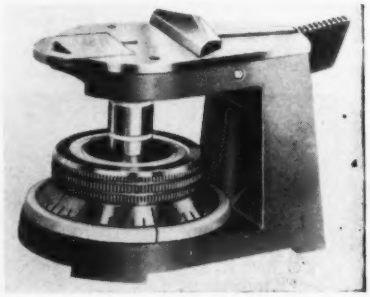
For Controlled Oiling



PISTON-OPERATED OILERS have an adjustable metering device that controls the amount of lubrication. The oilers, made by Plews Oiler Co., 701 S. 7th St., Minneapolis, Minn., have seamless detachable brass spouts.

Circle T-35 on Reader-Service Card

Sections Cut to 0.01 Mm.

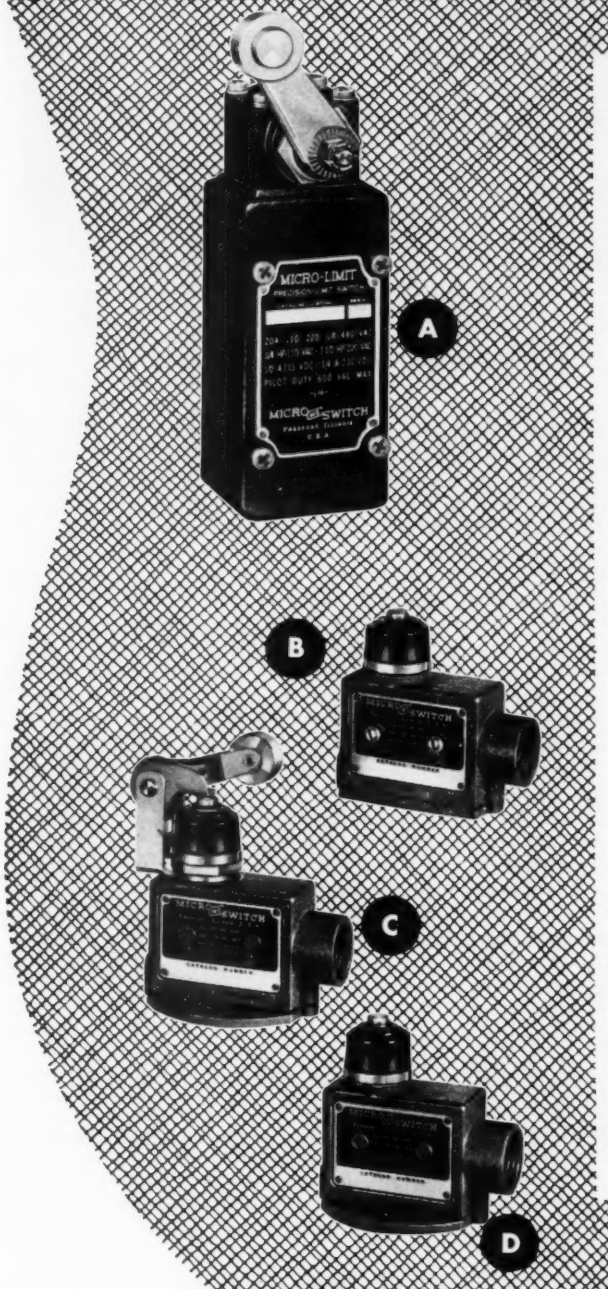


PRECISION MICROTOME is used to prepare fiber cross sections for the microscope. This instrument, made by Reynolds & Branson Ltd., N. West Rd., Leeds, England, is calibrated in 0.0004-in. (0.01-mm.) divisions on the knurled knob. A razor blade is then used by hand to cut the cross sections.

Circle T-36 on Reader-Service Card

MICRO SWITCH Precision Switches

A PRINCIPLE OF GOOD DESIGN



These switches are making money for hundreds of textile mill operators!

● MICRO SWITCH products shown here are but a few of the many types of switches which have been installed on present plant equipment to make many textile operations more automatic, safer and more productive.

A On a quilling machine hoist, these heavy duty limit switches automatically control the upper and lower travel limits of the quill carriage, relieve the operator for other duty.

B With this switch on guard, the machinery operating a spinning frame automatically stops when the door of the cabinet is opened. Current is turned off when door pressure on switch plunger is removed.

C Six switches like this assure constant tension of a cloth handling machine. They prevent belt shifting on the cone pulleys, keep the dancer roll within specified limits and modulate motor speed to fit position of dancer roll.

D Expensive needle beds on knitting machines are protected by two of this type of switches which stop the machine immediately in case of thread breakage, either above or below the cones.

These switches are ruggedly housed and sealed to resist entrance of moisture, lint and dust. They are easily installed on present plant equipment. Let a MICRO SWITCH field engineer assist you in the selection of the proper switch to best meet your problem. Stocks of many popular types of switches are available from MICRO SWITCH authorized distributors near you. Call or write your nearest MICRO SWITCH branch office.

MICRO SWITCH provides a complete line of extremely reliable, small-size, high-capacity, snap-action precision switches. Available in a wide variety of sizes, shapes, weights, actuators and electrical characteristics. For all types of electrical controls.

MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

FREEPORT, ILLINOIS

For more information, write direct or use Reader Service post card.

Tennant shows 127-year-old EXETER MANUFACTURING CO.

how to make floors TWICE as bright — at ½ the cost

Here, in America's oldest cotton mill (in continuous use since 1827), the TENNANT System works its modern magic on the famous floors in Exeter, N.H.

You see the results above. The *tennantized* area (right) is easily twice as bright as before. Yet mills tell us it costs about 50% less to get such results *today* than it did just 5 years ago.

Here's why. Improved Tennant techniques now make floors far brighter, more dirt-resistant. Result: you save 40% to 60% in manhours, buff only 1/5 to 1/10 as often as before, and get 4 times longer average life from newly developed floor seals.

Write today; ask for estimate of NEW savings now possible in your mill.

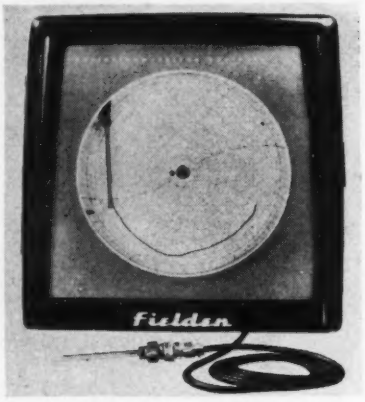
VERY LITTLE BUFFING is needed today to keep Exeter's historic floors bright. Mill was built shortly after War of 1812.

TENNANT
ESTABLISHED 1870

G. H. TENNANT CO.
2586 N. 2nd Street
Minneapolis 11, Minn.

FLOOR MAINTENANCE SYSTEM

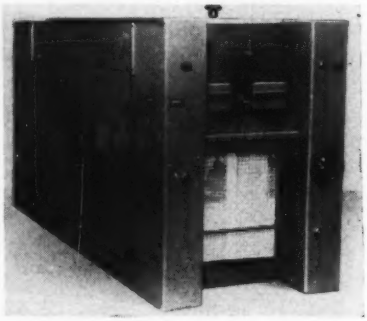
New Control Instrument Has Wide Applications



NEW RECORDING-CONTROLLING INSTRUMENT handles temperature, conductivity, position, and pressure applications, local or telemetering. The recorder, made by Fielden Instruments Div., Robertshaw-Fulton Controls Co., 2920 N. 4th St., Philadelphia 33, Pa., is composed of four interchangeable units. It operates on the null-balance principle from an a.c. signal. Electrical and pneumatic control forms are available.

Circle T-37 on Reader-Service Card

Swiss Yarn-Strength Tester Makes 100 Tests in 90 Mins.



YARN-STRENGTH TESTER automatically makes 100 tests in about 90 mins. and then cuts off. Two pens record readings of strength and elongation. Special counters give the average value of tests already made. Made by Henry Baer & Co., Zurich, Switzerland, the instrument handles yarn with breaking strength up to 13.2 lbs. Loading and extension can be regulated as required.

Circle T-38 on Reader-Service Card

Slasher Moisture Controller Keeps Moisture Constant

The B&W automatic moisture controller, said to be adjustable to hold constant any moisture content between 4% and 12% has been developed by B&W Electronic Research Laboratories, Dallas, Tex. The controller, continuously adjusting the machine speed, keeps the moisture

EAGLE BRAND CORN STARCH IS SUPERIOR TO ROOT STARCHES IN THESE RESPECTS:

- **Greater Uniformity**
- **Always Available**
- **Has Greater Viscosity Stability**
- **Has Lower Moisture Content**

Get more uniform sizing of combed yarns with EAGLE® corn starch
brand

"A complete line of starches from the world's prime producer of starch products."

Today's slasher operation requires extremes in fluidities. Eagle Brand Corn Starch meets the most exacting of these demands. Eagle Starch is an acid-converted, thin boiling starch, available in all fluidities. Since all viscosities are obtainable, Eagle Brand Corn Starch enables the mill to meet its concentration needs precisely. Eagle Starch makes a smoother, tougher size that contributes to higher loom efficiency.

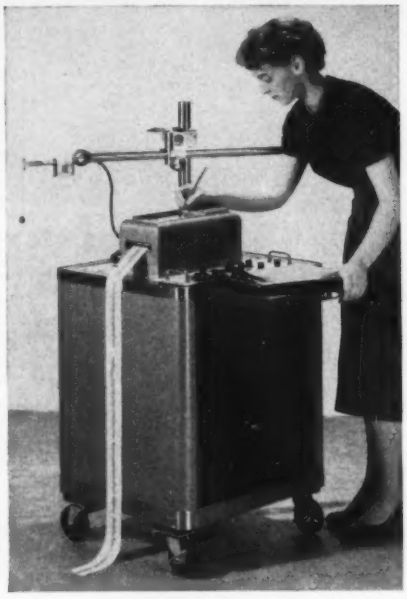
• ***Technical*** mill and laboratory assistance is yours without obligation. We welcome an opportunity to help you solve your specific production problems. Write us.

EAGLE CORN STARCH

CORN PRODUCTS REFINING COMPANY · 17 BATTERY PLACE, NEW YORK 4, N. Y.

NEW BRUSH TENSION ANALYZER*

MEASURES TENSIONS AT HIGH SPEEDS



● The Brush Tension Analyzer accurately measures and records instantaneous tension loads in filamentary materials—can be used during production of all natural and synthetic textiles as well as fine wire. The Analyzer measures both static tension levels and dynamic tension variations while the material is running at high production speeds. No manual plotting of data is required. For booklet write Brush Electronics Company, Dept. GG-6, 3405 Perkins Avenue, Cleveland 14, Ohio, or Southeastern Textile Instrument Office, 91 Cleveland Street, Greenville, South Carolina.

*Trade-Mark

BRUSH ELECTRONICS COMPANY

INDUSTRIAL AND RESEARCH INSTRUMENTS
PIEZO-ELECTRIC MATERIALS • ACOUSTIC DEVICES
MAGNETIC RECORDING EQUIPMENT
ULTRASONIC EQUIPMENT

BRUSH ELECTRONICS

formerly
The Brush Development Co.
Brush Electronics Company
is an operating unit of
Clevite Corporation.

THE YARNS YOU BUY GO INTO THE CLOTH

. . . not into waste!

TOMPKINS D-2

DOUBLE HEAD
SPRING NEEDLE
KNITTING MACHINE

SEE FOR YOURSELF . . . let us show you the Tompkins D-2 in production on whatever yarn or fabric you wish. Want to see samples of finished material? We'll knit up any material you specify — just send us the yarn!

OTHER TOMPKINS MACHINES

BEEF BAG KNITTER | HOCKEY CAP KNITTER | MULTIPLE FEED KNITTER

TOMPKINS BROS. CO. • Syracuse 4, N. Y.

content at the controller setting instead of it varying between established limits. In one trial installation, moisture content on a slasher, driven by flat belt from an overhead lineshaft, was held at 7% ± 1%.

The controller can be applied to any operating slasher without major modification to the slasher or slasher drive. An indicating meter that continuously shows moisture content above and below the setting is generally supplied with the controller.

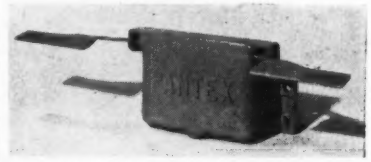
Circle T-39 on Reader-Service Card

New Inverted-Bucket Trap Vents Air Eight Times Faster

INVERTED-BUCKET STEAM TRAP is said to vent air out of steam-consuming units eight times as fast as older models; so the units can be brought to maximum capacity faster. According to V. D. Anderson Co., 1935 W. 96th St., Cleveland 2, Ohio, the manufacturer, the trap factor is never more than 2 to 1. Sizes from ¾ to 1¼ ins.; pressures up to 150 psi.

Circle T-40 on Reader-Service Card

Pneumatic Valve Controls Position of Operator



THE TWO LEVERS on this pneumatic-valve control have to be coordinated (simultaneously or in sequence) before the valve will operate; so it can be used to control position of an operator as well as control the piece of equipment. Made by Pantex Mfg. Corp., 521 Roosevelt Ave., Pawtucket, R. I., the control has been used on presses. Textile applications are open to suggestion. Price: $61.50.

Circle T-41 on Reader-Service Card

FROM BOLL TO BOLT

use ENERGETIC for detergent economy and efficiency

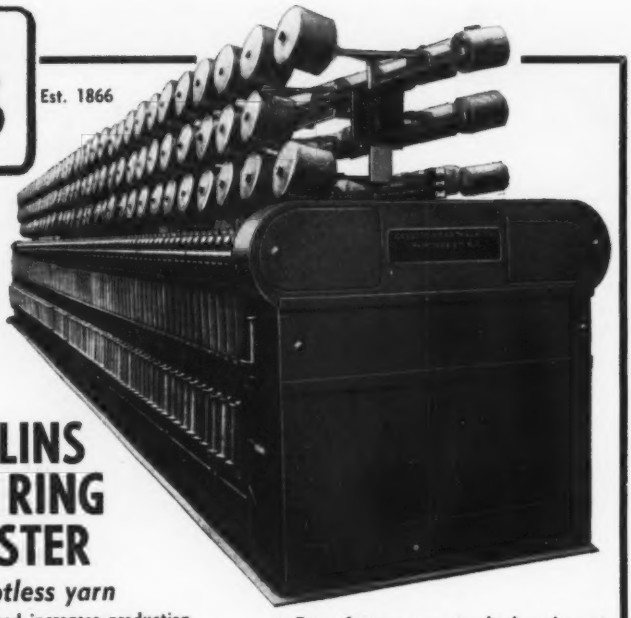
ENERGETIC is a powerful, concentrated non-ionic detergent that combines high soil removing and soil suspending ability, preventing redeposition on the goods. Because it is supplied 90% active, the quantity of ENERGETIC required to do a specific job will seldom exceed ⅓ of the conventional anionic material requirements. When desired, builders may be added, further reducing your scouring costs.

ENERGETIC is outstanding as a detergent for use in kierboiling, jig scouring and dyeing, package scouring and soaping off, dye levelling, soaping off naphthols, wool skein scouring, raw wool stock scouring and some other washing operations. ENERGETIC will prove in its first test in your mill how economical and efficient it is. Its essentially neutral character, the almost complete absence of salts, its stability in acid and alkaline solutions, and its controlled suds characteristics make ENERGETIC extremely valuable for textile washing operations. And it's completely compatible with anionic or cationic finishing agents, soaps and oils. It is available in 30 and 55-gallon steel drums, and also in 5-gallon containers. Contact your local Armour Industrial Soap representative or write Armour's Industrial Soap Department for further information on ENERGETIC—the proven textile detergent.

ARMOUR *Industrial Soap Department*

Armour and Company • 1355 West 31st Street • Chicago 9, Illinois

 For more information, write direct or use Reader Service post card.



Est. 1866

COLLINS
BIG RING
TWISTER

for knotless yarn

- High speed increases production
- Large ring increases efficiency
- Large package reduces cost of twisting and winding.
- Extra features are standard equipment

6¾ Ring produces package holding 7 lbs. 1,680 tire yarn.

There is a Collins Twister for every Ply Yarn Construction

COLLINS BROTHERS MACHINE CO.
PAWTUCKET, RHODE ISLAND
Southern Agent—Karl H. Inderfurth, Charlotte, N. C.

FOR almost a century Cole elevated tanks have provided a dependable water supply for mills and communities. Cole quality is assured by careful, experienced designing and watchful supervision from blueprints to finished tank. Send us your inquiries for tanks from 5,000 to 2,000,000 gallons—stating capacity, height to bottom, and location. *Write for latest Cole catalog*—"Tank Talk."

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OF EXPERIENCE
IN BUILDING TANKS

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ELEVATED TANKS • VESSELS • CYLINDERS
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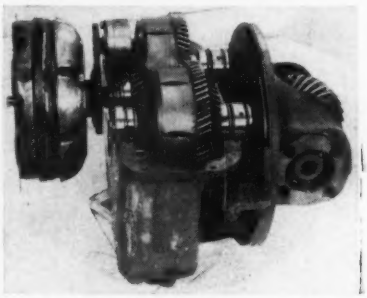
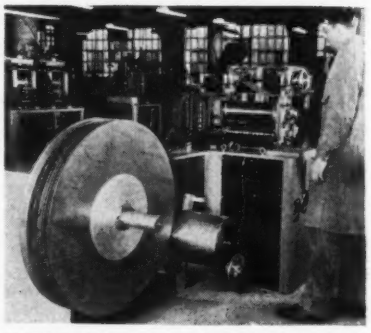
Smaller Fork Trucks Now Have Hydratork Drive



HYDRATORK DRIVE for light-capacity fork trucks has been developed by Clark Equipment Co., Battle Creek, Mich. Fork trucks with the drive are now available in 3,000- to 5,000-lb. capacities. The drive eliminates the gear shift and the clutch pedal. Additional cost: $270.

Circle T-42 on Reader-Service Card

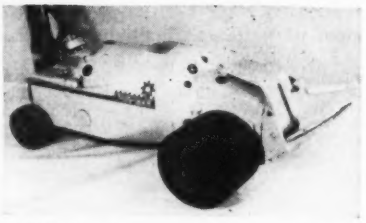
Metal Slitter Can Be Modified To Slit Wire Cloth



SLITTER (shown here slitting sheet metal) is said to have a low initial cost and operating expense and high efficiency. The slitters can be modified to handle jobs such as slitting wire cloth. The manufacturer is Stanat Mfg. Co., 47-30 37th St., Long Island City 1, N. Y.

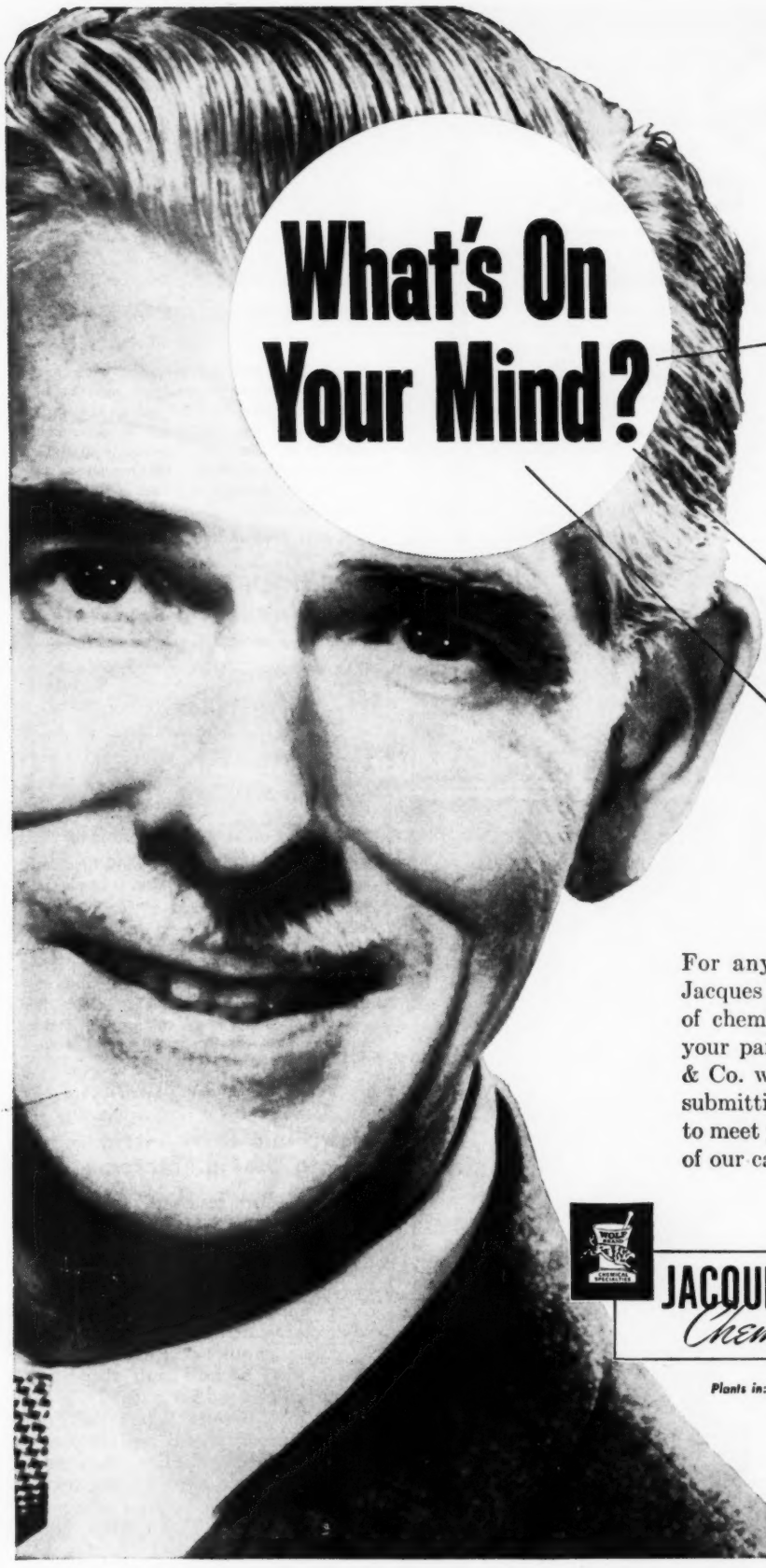
Circle T-43 on Reader-Service Card

Heavy Load Mover Works Anywhere a Man Can Stand



TUG-BAR is the name given to this load-moving gadget. Originally designed to handle cargoes on airplanes with close quarters, the Tug-Bar, made by Western Gear Works, Box 182, Lynwood, California, can be used to move loads of up to two tons in any space a man can stand in. It can be used to tilt up heavy machines in close aisles. It operates from a 110-v. a.c. line.

Circle T-44 on Reader-Service Card



What's On Your Mind?

Mercerizing

DESMER—An efficient, economical liquid wetting agent for use in mercerizing solutions. In very small quantities it causes instantaneous wetting out and uniform penetration of the caustic liquor which results in a smooth, round surface and maximum luster.

Anti-Static

STATLESS—A paste for reducing static on all types of fibers; is substantive in dilute solutions.

Sanforizing

SANFORIZING OIL—A clear, amber oil used as a penetrator and softener for sanforized cloth; promotes uniform shrinkage; gives lubrication during sanforizing process.

For any stage of textile processing, Jacques Wolf & Co. has a complete line of chemicals and specialties. Whatever your particular problem, Jacques Wolf & Co. will welcome the opportunity of submitting samples custom-formulated to meet your needs. Write for your copy of our catalog.

JACQUES WOLF & CO.
Chemicals PASSAIC, N.J.

Plants in: Clifton, N.J., Carlstadt, N.J., Los Angeles, Calif.

Laurel
Textile Specialties
cut your processing costs

Laurel Textile Finishing Agents

Laurel Textile Oil—cotton, rayon
Lauramine #1—cotton, synthetics
Lauramine #20—softener for package-dyed cotton yarns and blends
Olamine (Cation Active)—cotton, synthetics
Yarn Conditioners—cotton and mixed yarns
Softeners and Anti-Static Compounds—Regent Coning Oil—Orlon, Dacron, Acrilan, Nylon, Acetate
Spinol RL—Orlon, Orlon-Wool blends, Dacron
Laurel Hosiery Finishes—all fibers
Permanent Resin Finishes—all fibers
Flame Retardant #527C
Water Repellent Compounds—all fibers
Weighters & Conditioners—all fibers
Dullers

Laurel Scours and Penetrants

Laurel Brand Soaps—all fibers
Laurel Hydrosol—wool, cotton, mixtures
Laureltex Transfer Removers—all fibers
Laureltex #340
Laurel Transfer Solvent #622C
Laurel Synthetic Detergents and Penetrants
Laurel Supergel RS—all fibers
Laurel Boil-off Compounds—rayon, nylon, mixtures
Laurel Triconate—rayon, nylon, mixtures
Laurel Oils—Wool, Rayon—Sulphonated, Scouring, Fulling, Finishing Oils for all purposes, Stainless Knitting Machine Oil

Laurel Products are available for all fibers and fabrics. Call on us for recommendations to meet your specific problems.

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by the Textile Industry
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Model 3-427-16 swivel fork caster with thread guards

Model 3-408-16 rigid fork caster with thread guards

Our friends in the Textile Industry worked with us in developing casters and materials-handling trucks to meet their needs—*exactly*. The result is a line of casters, hand trucks, platform trucks, box trucks, and drum and barrel trucks that can add extra efficiency to any mill operation. COLSON Casters roll easily over all floors, swivel freely, are rust resistant. Many models have thread guards. Write us or consult the yellow pages for the COLSON office near you.

Write for free catalog—
"COLSON Trucks and Casters"

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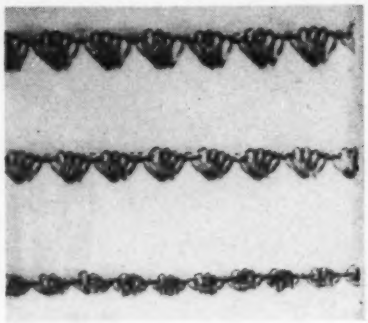
ELYRIA, OHIO
CASTERS · LIFT-JACK SYSTEMS · INDUSTRIAL TRUCKS

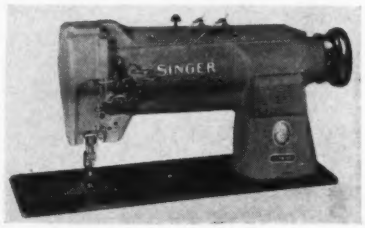
New Shell-Stitch Machines



THESE STITCHES are produced by a new series of shell-stitch machines put out by Merrow Machine Co., 28 Laurel St., Hartford, Conn. The top stitch is a smaller shell stitch than was previously possible with Merrow machines. The machines are in the Class A group and have a high-speed looper mechanism.

Circle T-45 on Reader-Service Card

Lockstitch Machine for Two-Needle Sewing Work



TWO-NEEDLE LOCKSTITCH MACHINE for light to medium-heavy sewing is made in gauges from 1/32 to 1½ ins. Made by Singer Sewing Machine Co., 149 Broadway, New York 6, N. Y., the machine has a 1 5/16-in. needle-bar stroke, ¼-in. clearance under pressure foot, and 10½ ins. of free space to the right of the needle. It will make down to six stitches per inch. A needle-bar rock frame eliminates overthrow.

Circle T-46 on Reader-Service Card

New Fluid Drive Fits ¾- to 50-Hp. Motors

A fluid drive ready to slip on any size motor from ¾ to 50 hp. is being offered for sale by Twin Disc Clutch Co., Racine, Wis.

The drive (the Hydro-Sheave) is delivered filled with fluid and is ready to be used. It is designed to be used with Worthington quick-detachable sheaves but can also be used with plate-type chain sprockets and flat belts.

The manufacturer states that the drives have been tested and are proving successful on friction calenders, garnett machines, roving frames, tentering frames, reversing aprons, spinning frames, embossing calenders, jute twisters, and card drives. Results in

Firest[illegible]elops new spindle tape for powe[illegible] superior to other tapes

1 Made of Velon and nylon

2 Won't hold lint

3 Won't stretch, reduces slip

4 Cuts power costs

5 Outlasts other tapes

6 Won't catch fire

Application: To be used as a power drive on spinning and twisting frames in textile mills . . . to efficiently transfer power from main drive shaft to the spindles . . . to overcome the disadvantages of the tapes currently in use.

This new woven tape of Velon (80%) and nylon (20%) ❶, was developed to offer textile mills a far more stable tape, which is also more economical. Since it is also electrostatically neutral, it is lint-resistant ❷ . . . never loses its gripping power. Slipping tapes result in low-twist yarn.

❸ It can't stretch, thereby eliminating slippage and irregular spindle speeds with resulting off-quality yarn. It assures more uniform driving speed and good power transmission throughout its life, due to its good coefficient of friction. ❹ Actual tests have shown a power savings of about 5%.

Its initial cost is approximately equal to other quality tapes ❺ but repeated tests indicate that it far outlives them in most applications. And it's fire-proof ❻ . . . absolutely will not support combustion. Take advantage of the free offer below.

Developed by Firestone and Russell Manufacturing Company, Middletown, Conn. Marketed by Russell.

USE THIS COUPON TO GET YOUR FREE SAMPLE SWATCH!

Firest[illegible]elon® yarn

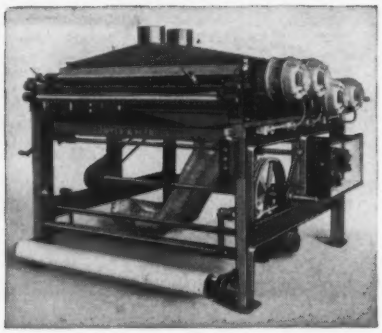
Firestone Plastics Company, Yarn Division
307 Fifth Avenue, New York, New York.

☐ **Please send a free sample swatch for my inspection along with full details and prices.**

Name_____

Address_____

Your Title_____ **Company Name**_____



TYPE CMR SHEAR

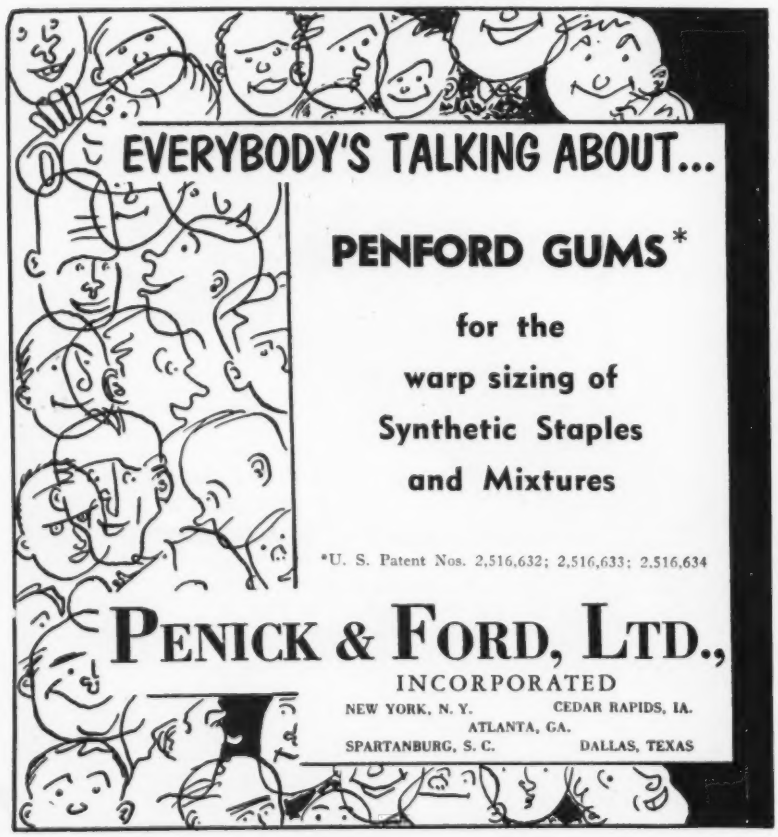
with Automatic Seam Protector*

Completely removes selvage and surface threads from cottons, rayons and silks.
Operates more efficiently, gives greater production.
Complete full width protection on all seams.

*Patented

For information about Type CMR Shear, send for Bulletin No. 335B.

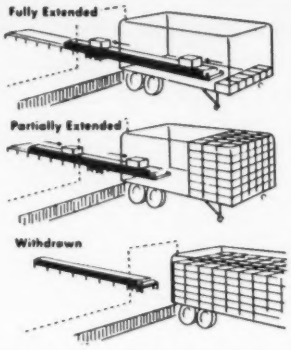
Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS



each case have smoothed over-all operation and cured maintenance problems caused by heavy startups, vibrations, and running-load variation, it is claimed.

Circle T-47 on Reader-Service Card

Conveyor Goes Into Truck to Help Loading or Unloading

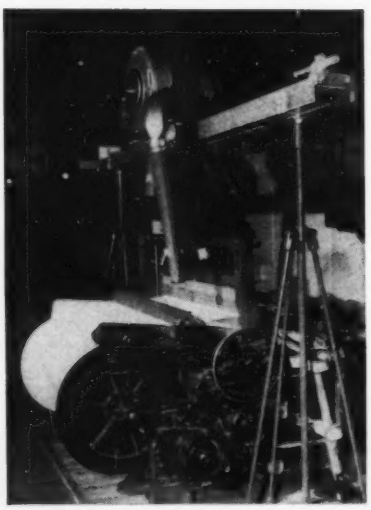


TELESCOPIC CONVEYOR goes right into a trailer truck for loading or unloading the truck. Ball-bearing cross rollers support the moving woven-wire belt, which can operate in either direction. Made by Alvey Conveyor Mfg. Co., 9301 Olive St. Road, St. Louis 24, Mo. The power-driven boom conveyor is mounted on a stationary frame. Controls are on the head end.

Circle T-48 on Reader-Service Card

Weaving

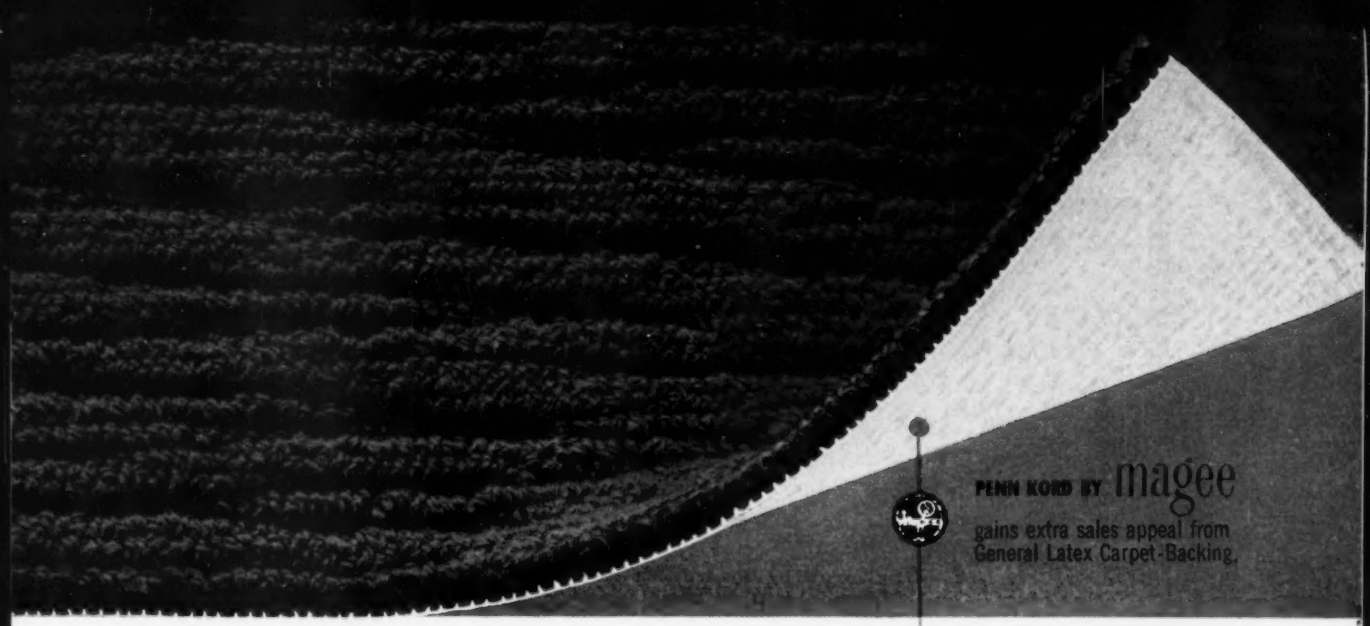
CONTINUED FROM PAGE 97



Loom Cleaner

A new loom cleaner was shown by Parks-Cramer Co., Fitchburg, Mass. The cleaner includes two blowers, front and back, having two attached impregnated-cloth air outlets. The long outlet on each blower has a fixed directional adjustment, while the short outlet oscillates through an adjustable arc.

(A-294)



PENN KORD BY magee

gains extra sales appeal from General Latex Carpet-Backing.

Two famous carpet manufacturers agree:

"White Rubber Backing Moves Rugs off Retail Floors"

General Latex Carpet-Backing adds three sales features at low cost. 1. Carpets and rugs hug the floor with a non-slip grip. 2. Their extra stiffness makes them lie flatter. 3. They require no binding when cut. Why don't you add these sales plusses?

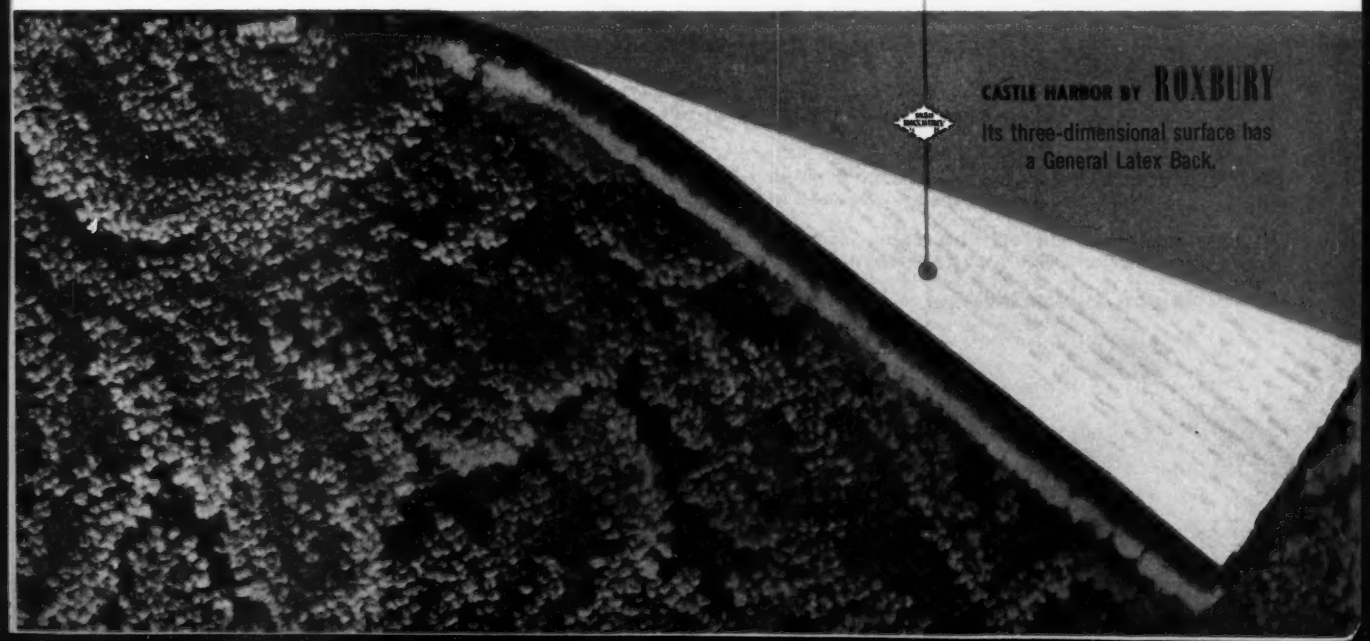
General Latex & Chemical Corporation

Compounders of Natural and Synthetic Rubber Latices and Resins
666 Main Street, Cambridge 39, Massachusetts

GENERAL LATEX & CHEMICAL CO. (OF GA.)
1206 Lamar St., Dalton, Georgia

GENERAL LATEX & CHEMICALS (CANADA) LTD.
Verdun, Montreal, Quebec

REPRESENTATIVES IN PRINCIPAL CITIES



CASTLE HARBOR BY ROXBURY

Its three-dimensional surface has a General Latex Back.

PAGE FENCE - Since 1883

• AMERICA'S FIRST WIRE FENCE •

• Page Chain Link Fence, pioneered by Page and made only by Page, is quality controlled from raw metal to erected fence. Whether you choose heavily-galvanized Copper Bearing Steel, or long-lasting Stainless Steel, or corrosion-resisting Aluminum, you'll have a rugged fence on sturdy metal posts deep-set in concrete. Choose any one of 8 basic styles, varied by heights, types of gates, posts, top rails and barbed wire strands for extra protection. And to be sure of reliable workmanship your fence will be expertly erected by a specially trained firm. For helpful Page data and name of member nearest you—

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

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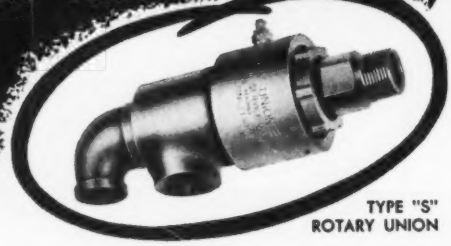
Here It Is!
The *New* ROTARY UNION*
That Permits
Field Repair



TYPE "S"
ROTARY UNION

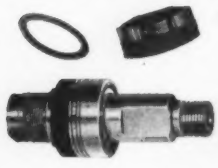
All Past Advantages:
This new Field Repair ROTARY UNION has all of the advantages of former models. It is self-aligning, self-adjusting, and will give you the same long trouble-free service which has made ROTARY UNIONS the favorite of mill men.

Plus Field Repair: Now you can repair ROTARY UNIONS in your own shop. Any ordinary mechanic can do this in a few minutes with standard maintenance tools.

Present Units Are Convertible: You can easily and quickly convert your present ROTARY UNIONS to field repair units, using the simple conversion unit shown here.

Rotary Unions are now better than ever on your slashers, dry cans, calenders, and embossing and printing machines. Call our nearest office for details or write Dept. 6W for our new catalog.

*Trade Name



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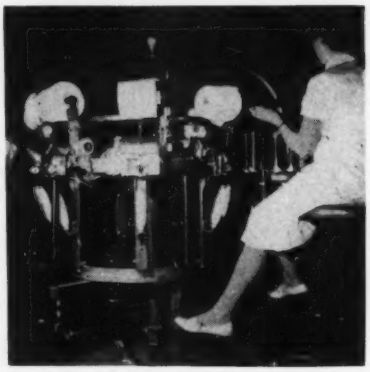
Twisting and Winding

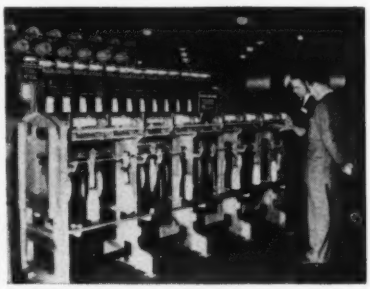
CONTINUED FROM PAGE 89



Easy Change for Winder Speed

A variable-speed drive on the cone winder from Abbott Machine Co., Inc., Wilton, N. H., changes the speed of the cone movement to allow the operator to change successive cones with no serious loss. The change is made by a foot treadle that can set speeds up to 21 cones per minute. The device is used also for changing speeds for various yarns. A new drive turns the driving rolls by a Gilmer belt drive.

(A-295)



Pattern Chain for Twister

A novelty-yarn twister shown by Collins Bros. Machine Co., Pawtucket, R. I., had a new-type control head to drive the top feed rolls and the bottom feed rolls at various speeds to produce a wide variety of novelty yarns. Two clutches are operated by various-size detachable links on a pattern chain to stop the feed rolls, drive them fast, or drive them slow. One pattern chain controls the top line of rolls and a second chain drives the bottom rolls.

(A-296)

Versatile Synthetic Winder

A higher-speed winder that runs all types of packages was shown by Fletcher Works Inc., Philadelphia, Pa. The average speed of the frame is 750 yds. per min. A lathe principle is employed to obtain true bobbins.

(A-297)

He "Roughs It" in the "Cloth of Kings"

Corduroy—Once Royalty's Favorite—Belongs to Everyone Today

Long before Caesar, the Gauls had worked out a twill pattern in weaving. Later was developed the rich, ribbed fabric so favored by the French Court it was called cord-du-roi, or cloth of kings.

Today corduroy belongs to everyone—and is as much valued for its ruggedness as for its beauty. Thanks to modern textile manufacturing methods, corduroy can be woven to meet virtually every need. Used for coats, dresses, sports clothes, draperies, upholstery material—it is an outstanding example of textile manufacturing progress.

Exactly right for today's textile requirements are Staley's sizing and finishing starches. Scientifically formulated to give you the exact weight and uniformity you need, Staley's starches insure you better, more economical results. For more information, write today.

THERE IS A SUPERIOR QUALITY STALEY STARCH FOR EVERY TEXTILE NEED

Staley Sizing and Finishing Starches for Every Need...

- Pearl Starch
- Eclipse®
- Sta-Gel (N. C.)®
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PRODUCTS FROM CORN
Staley's

A. E. Staley Manufacturing Company, *Decatur, Illinois*

AT YOUR SERVICE

SPECIALIZED ENGINEERING

SPECIALIZED EXPERIENCE

SPECIALIZED MACHINERY FOR TWISTING BUNCHING STRANDING FORMING AND LAYING IN THE TEXTILE • WIRE CORDAGE AND MANY OTHER INDUSTRIES

WRITE TODAY. YOUR INQUIRY WILL GET PROMPT ATTENTION

HASKELL-DAWES MACHINE CO., INC.

2231 E. ONTARIO ST.
PHILADELPHIA 34
PA.

Yarn-Production Supplies

CONTINUED FROM PAGE 91

▶ The Melangen Atlas of Blends, which contains samples of 3,200 blends and tells how they were made, was shown by Stellite American Corp., New York, N. Y. The seven volumes sell for $145 complete.

(A-298)

▶ A picker-spindle tube was featured by Engineered Plastics, Inc., Gibsonville, N. C. The plastic tube slides on the picker stick to reduce wear and heat. The picker is rebored or the shaft is turned down.

(A-299)

▶ Rotafil, a flyer cap that concentrates roving twist between the front rolls and flyer top, was shown by Stellite American Corp., New York, N. Y.

(A-300)

▶ Ring travelers for the new high-speed larger-package spinning frames were shown by National Ring Traveler Co., Pawtucket, R. I. The travelers are shaped to follow the contour of the ring flange to reduce air resistance.

(A-301)

▶ Spinning tapes made from nylon were shown by William Kenyon & Sons (America) Ltd., Perth Amboy, N. J. The tapes were joined by a nylon bonding strap in about 30 secs. The tapes were demonstrated with cotton tapes to show an increase in spindle speed, a reduction in power consumption, and a reduction in spindle-speed variation.

(A-302)

▶ Seamless 16-in. sliver cans were shown by National Vulcanized Fiber Co., Inc., Wilmington, Del.

(A-303)

▶ Uptwister bobbins with metal-top flanges were shown by Engineered Plastics, Inc., Gibsonville, N. C. The barrel is metal, and the bobbins are used for nylon tire cord.

A-304)

▶ A nylon throwing bobbin was shown by Spaulding Fibre Co., Inc., Tonawanda, N. Y. A Bakelite tube is wrapped around an aluminum tube, which is turned at each end to give higher strength, uniform balance, and high pull resistance.

(A-305)

▶ A new filter box for the Thoma pneumatic cleaner was shown by Stellite American Corp., New York, N. Y. The box fits over the motor and drive of the spinning frame.

(A-306)

▶ A split-paper-tube bobbin that expands or contracts by springs to accommodate any size of pot-spun yarn package was shown by The Pot Spinning Corp., Lowell, Mass., at the booth of Sonoco Products Co.

(A-307)

PACKAGE DYED ACETATE YARNS

- BRILLIANT
- EYE-CATCHING
- SPARKLING
- RAINBOW HUES

Your Originality Gets You A Profit

Every shade to your own liking . . . Why be limited to a few shades when *your* styling can sell goods . . . Select your shades and have us dye them.

Jobbers of Natural Acetate & Rayon Yarns

Atlantic Rayon CORPORATION

Dyers and Converters of Synthetic Yarns for All Industries

Plant at Providence 1, R. I.

NEW YORK REPRESENTATIVE

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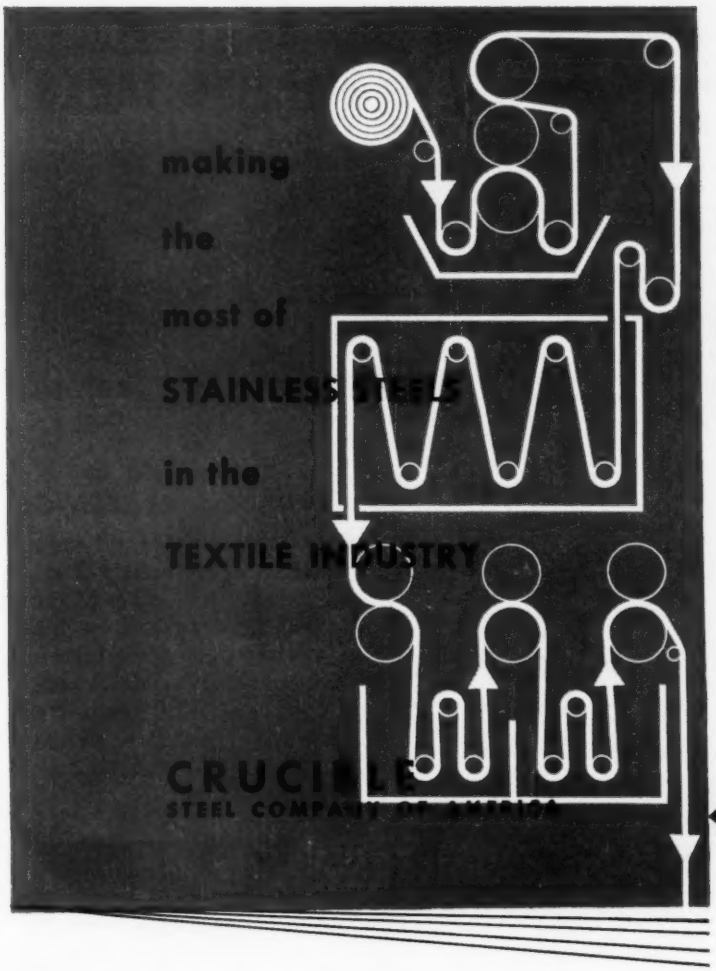

NEW BOOK SHOWS HOW
from dyehouse to loom

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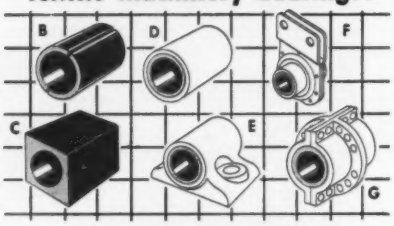

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NAME & TITLE
COMPANY
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Finishing Accessories

CONTINUED FROM PAGE 103

Cloth-Guide Control

Askania Regulator Co., Chicago, Ill., showed a cloth-guide control that measures the edge of cloth by passing a low-pressure air current between two orifices past the cloth edge. A regulator converts the small air-pressure signal into a high-level hydraulic force to position the moving web. The device is said to be highly sensitive.

(A-308)

▶ Birch Brothers, Inc., Somerville, Mass., showed a new pad safeguard consisting of a photoelectric cell that throws a beam in front of the nip. When the beam is interrupted, the motor stops and the roll cannot be lowered or the motor started until the obstruction is removed.

(A-309)

▶ Winsor & Jerauld Mfg. Co., Providence, R. I., showed a new tenter-clip conveyor-opener composed of a special heat-resistant belt that activates the tenter-clip jaws to cause gradual, smooth, and noiseless opening. The device can be installed on any tenter frame.

(A-310)

Improved Weft Straightener

An improved combination Model B multiroll-type skewed and bowed weft straightener was shown by Mount Hope Machinery Co., Taunton, Mass. Improvements include: a new method of pivoting swinging rolls at the cloth selvage for quicker correction, a new spring-mounted tension roll with a limit switch to prevent slack selvage in correcting skew, and the unit complete with guiders to keep cloth in alignment.

(A-311)

▶ Sill Industries, Maplewood, N. J., showed an electric radiant heating panel said to produce uniform heat by using a ceramic base that creates a reservoir of steady, uniform, high-temperature heat.

(A-312)

▶ Rubber squeeze, pressure, and embossing rolls were shown by C. Walker Jones Co., Philadelphia, Pa. Made to specifications, the rolls are soft to bone hard in a number of different colors for different applications.

(A-313)

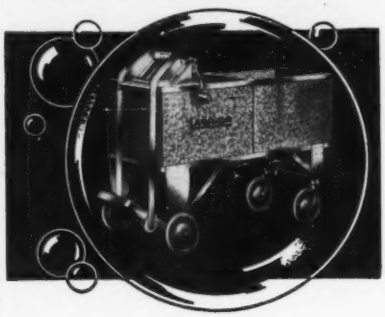
▶ Morrison Machine Co., Paterson, N. J., showed a V-belt drive on a dry-can unit. In this arrangement, the conventional gear or chain-sprocket drive is replaced with a V-belt-drive arrangement on each can.

(A-314)

▶ A new seam and slub detector was shown by B. F. Perkins & Son, Inc., Holyoke, Mass., for use on calenders, inspection machines, and shearing machines.

(A-315)

LAWLOR
MOPPING TANKS



Lead the Field in RUGGEDNESS and SERVICE

8 styles and sizes of all steel, acetylene welded tanks • 2 or 3 compartments • 30, 60 or 65 gallon capacities • Hand or foot pressure wringers • Perforated roll wringers • Special drain shut-offs • Hot dipped, galvanized chassis and frames • Rubber tired, cadmium plated steel wheels.

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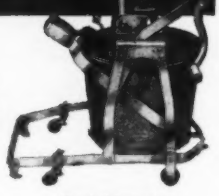

EASIEST turning wringer made: there are bearings at ends of rollers.

EASY to bring rolls together; the foot lever is perfectly balanced.

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EASY to move wringer: self-adjusting front casters raise metal feet from floor when you're ready to go.

The LAWLOR No. 2 accommodates any standard round, galvanized pail up to 16-quart capacity. Net weight of wringer—23 pounds.

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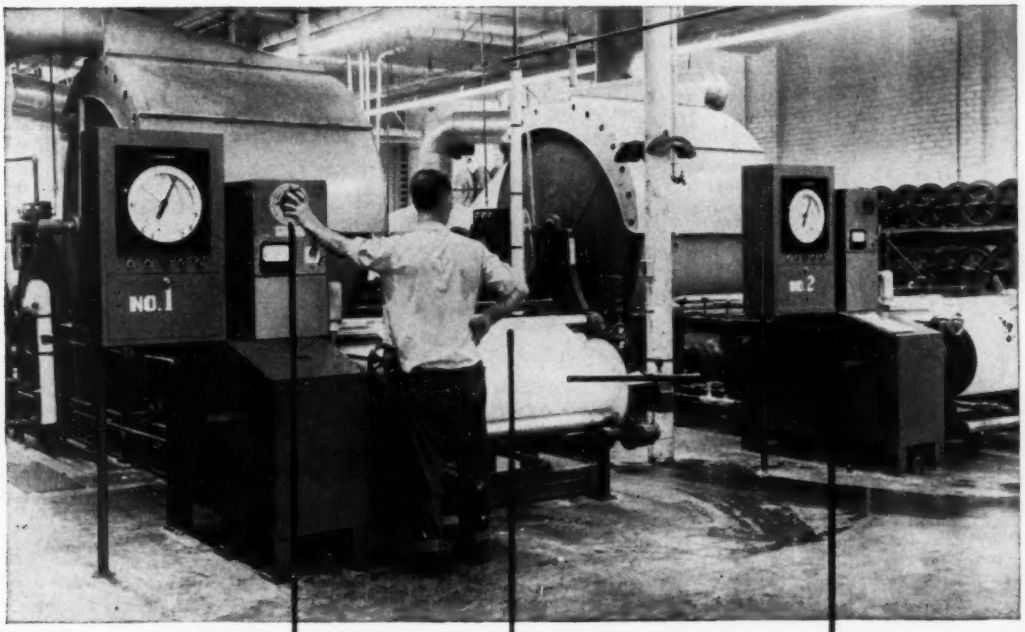

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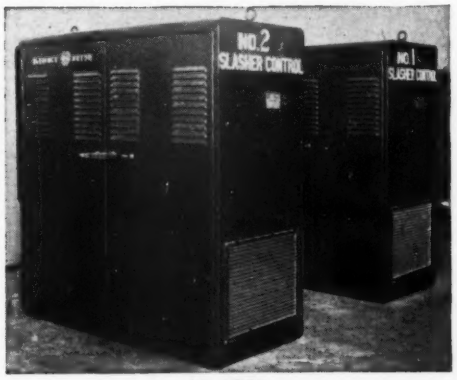
✔Constant Winding Tension

✔More Yarn On The Beam



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BROADLOOM BEAMS

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Shown above is Milton's stud construction (also made with cast iron, hubs).

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Adjustable head with fixed shaft, or fixed head with removable shaft.

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MILTON MACHINE WORKS
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► An improved selvage uncurler including springs built into the heads to automatically take up selvage slackness and maintain firm contact with the cloth was shown by Mount Hope Machinery Co., Taunton, Mass.

(A-316)

► Wearsaver tape for covering worn expander rolls was shown by Mount Hope Machinery Co., Taunton, Mass.

(A-317)

► An improved hydraulic loading mechanism for calenders was shown by B. F. Perkins & Son, Inc., Holyoke, Mass.

(A-318)

► Werner Machine Co., Inc., Passaic, N. J., showed an automatic suction-slot sealer for sealing off the unused portion of a suction slot.

(A-319)

► A self-reversing expander for use on a jig was shown by Mount Hope Machinery Co., Taunton, Mass. As the cloth in the jig is reversed, the expander automatically reverses to accommodate the cloth coming from the other direction.

(A-320)

► A constant-tension center wind for batching cloth from the delivery end of a machine was shown by David Gessner Co., Worcester, Mass. The unit is electromechanical in operation and features automatic synchronization with the machine delivering the cloth, constant tension, and simple tension adjustment.

(A-321)

► A burr crusher composed of chilled-iron rolls was shown by B. F. Perkins & Son, Inc., Holyoke, Mass.

(A-322)

► Riggs & Lombard, Inc., Lowell, Mass., showed a new Tri-Homo Champion homogenizer-disperser. The working space between the rotor and stator is adjustable to allow for thickness of the product film; hence the rotor speed can be slower in proportion to the viscosity of the product.

(A-323)

► Sill Industries, Maplewood, N. J., has improved its Carbomatic Una-Ray, an infrared, gas-fired burner, by adding a protective wire-mesh screen.

(A-324)

► Industrial Radiant Heat Corp., Gladstone, N. J., showed Fiberglas and Nichrome heating panels producing temperatures of 700° F. and 1,400° F. respectively.

(A-325)

► Samples of its line of brushes for processing machines, including printing machines, cards, and flocking machines, were shown at a textile show for the first time by

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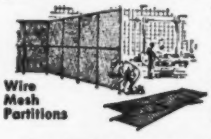

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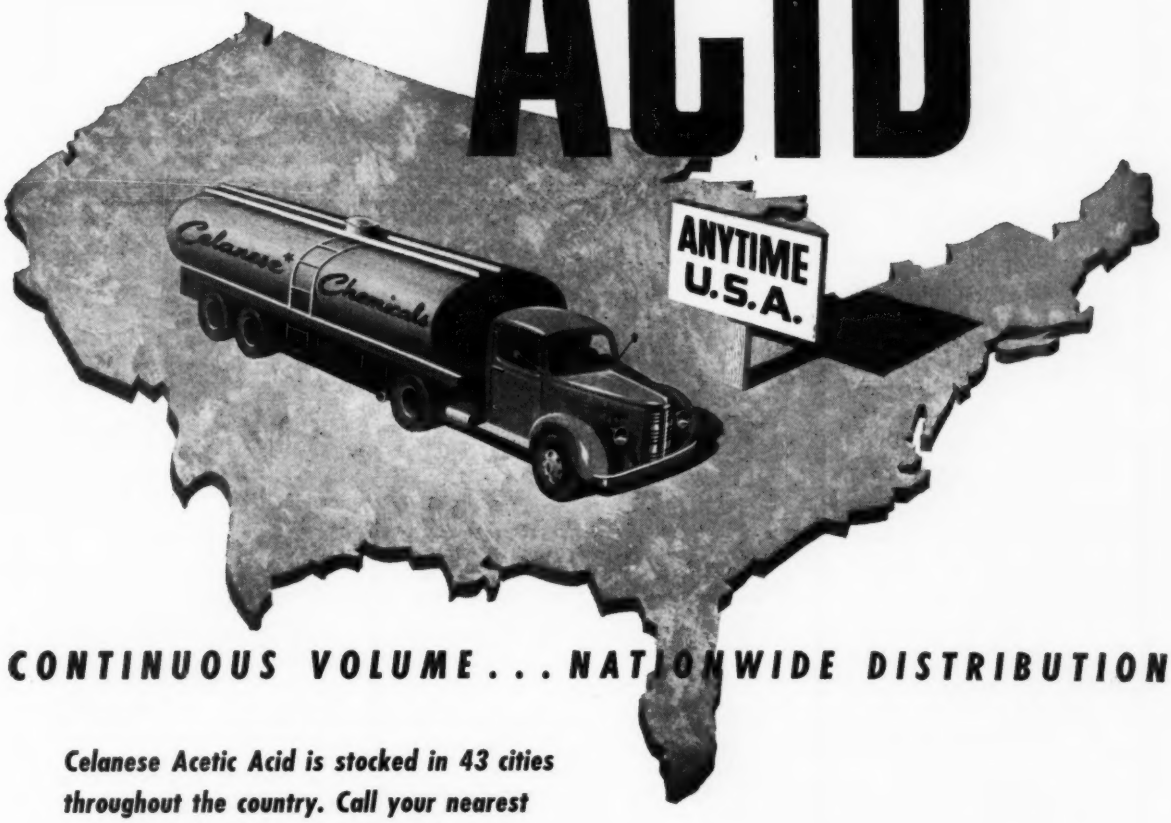

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ALLEN
MANUFACTURING COMPANY
Hartford 2, Connecticut, U.S.A.

Industrial Brush Co., Inc., Little Falls, N. J. The company makes a wide range of brushes to specifications.

(A-326)

Instruments

CONTINUED FROM PAGE 105

expanded chart range: 50 to 100% r.h.

The fourth development was the Clarksboro-Brookfield Viscometran, an instrument for the measuring and control of size manufacture. The drag on a rotating plumb weight indicates the viscosity.

(A-327)

▶A portable head for its evenness tester was shown by Fielden Instrument Div., Robertshaw-Fulton Controls Co., Philadelphia, Pa. The instrument can now be used on the floor of the mill instead of just in the laboratory. Fielden also had a demonstration of a photoelectric control of woolen card doffers to maintain a constant weight of the web.

(A-328)

▶A new pneumatic thermometer-controller was shown on an installation mock-up by Minneapolis-Honeywell Regulator Co., Philadelphia, Pa. Applicable to slashing, dyeing, and storage operations, the medium-priced Model 604P5 instrument has one control knob, ranges from 40 to 1,000° F., pneumatic on-off or 10% throttler control, and vapor or mercury systems. Accuracy is ±1% of full scale.

(A-329)

▶Predetermined electric counters were shown by Durant Mfg. Co., Milwaukee, Wis. The best application is in the finishing department because the operator can set the counter from a distant position. A feature is that the switch is not reset until all wheels are zeroed.

(A-330)

▶The Disk Colorimeter was shown by Macbeth Corp., Newburgh, N. J. The instrument uses a Macbeth north-sky daylighting unit and Munsell spinning color disks to match colors and grade samples. The color disks are provided in a specific series of numbered colors.

(A-331)

Mill Engineering

CONTINUED FROM PAGE 108

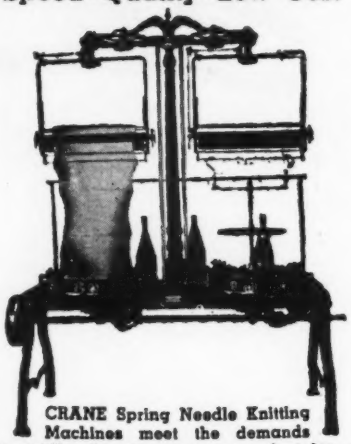
Loom Clutch Is Air Actuated

An air-actuated loom clutch was demonstrated by Twin Disc Clutch Co., Ra-

1870 CRANE 1954

SPRING NEEDLE KNITTING MACHINES

Speed - Quality - Low Cost



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PRECISION to the Nth Degree!

Cop, Butt or Bobbin Winders' designed and manufactured to exacting specifications to give you correct fit, maximum yardage and uniformity. Simply send us a small supply of your yarn and we'll wind and return with Test Wind Report and Catalog.

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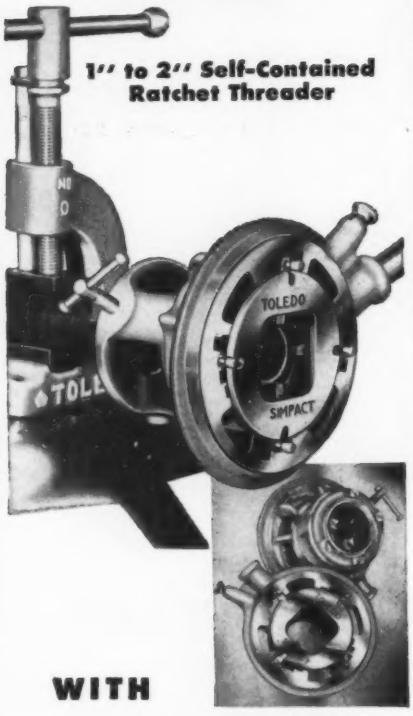

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PIPE HOLDER

★ *Improved* cam-type quick-action pipe holder has broader jaws for more positive grip on pipe.
★ Free action cam assures instant setting to any size—1" to 2".
★ Easy to center . . . you get perfect aligned threads.
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cine, Wis. The clutch features push-button operation from single or multiple stations. The clutch operates by direct air pressure in an expanded chamber. Because the clutch compensates for wear, it completely eliminates the need for adjustment. The clutch is designed for new looms or for looms now in production.

(A-332)

▶ The Farval system of centralized lubrication (The Farval Corp., Cleveland, Ohio) was shown for the first time at a textile show. An exact measured lubricant charge is said to be delivered regardless of the size, type, location, and number of bearings on a machine.

(A-333)

▶ Two new pumps for its central-lubricating system were displayed by Bijur Lubricating Corp., Rochelle Park, N. J. One is a solenoid pump that cuts off a machine when the oil runs out. The other is an improved automatic lubricator (combination pump and reservoir).

(A-334)

▶ Two new rotary pressure joints and a new syphon elbow were shown by Johnson Corp., Three Rivers, Mich. Both joints retain the features of Johnson joints but are smaller in size, lighter in weight, lower in cost, and longer in life. The effective thickness of the seal rings has been increased. Type J joints are pipe supported; Type S are self-supporting. The elbows are used with the joints and can be removed without disturbing the joint.

(A-335)

▶ Rubber-to-metal bushings were shown by Harris Products Co., Cleveland 3, Ohio. One application recently found is on temple cutters on Draper looms.

(A-336)

▶ Daffin Mfg. Co., Lancaster, Pa., showed an improved industrial humidifier. The unit is said to have twice the capacity of the old model and to be insensitive to lint in the air.

(A-337)

▶ The torque limiter shown by Morse Chain Co., Detroit 10, Mich., provides automatic overload protection for conveyors and packaging machinery. The torque limiter has a spring-loaded friction mechanism that is adjusted to slip when the desired load is exceeded.

(A-338)

Finishing Equipment

CONTINUED FROM PAGE 101

Three-Roll Laboratory Padder

H. W. Butterworth & Sons Co., Bethayres, Pa., showed a three-roll laboratory

. . . especially for continuous bleaching. Its extra alkalinity reduces the need for additional caustic in the J-Box. Exceptionally pure, clear Starso releases oxygen evenly and lessens J-Box deposits.

Get prices on Starso in drums or tank cars.

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Kill the ROOTS and you kill the WEEDS!

NEW DOLGE N P WEED-KILLER

. . . Can be used with confidence by anyone. Kills *all* vegetation; sterilizes the soil. RESULTS APPARENT IN A FEW DAYS. Spray, sprinkle or use as dry powder . . . "built-in" wetting and spreading agent works *fast*. Non-inflammable, non-volatile, non-corrosive.

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SOLEXTO kills grubs of turf insects—one application protects lawns for years!

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IF COLOR IS WHAT YOU WANT in fine quality cotton knitting yarn, CROSS can supply it. In fact, the CROSS mill can match your shade or you may select from more than 700 shades now shown in the CROSS color catalog. What's more, the CROSS laboratory has on file the formula for more than 2000 shades.

FROM SPINNING TO DYEING, there is nothing better than CROSS yarn. So if you want fine quality cotton knitting yarn . . . get CROSS double-carded or combed yarn, bleached or dyed. See what a difference quality makes!

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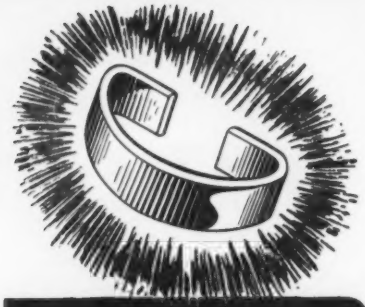

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JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 2261, GREENVILLE, S. C.

padder equipped with air cylinders for applying pressure to the nip. Rolls are rubber covered, and two stainless-steel boxes equipped with immersion rods are furnished.

(A-339)

▶ The National Drying Machinery Co., Philadelphia, Pa., showed models of improved drying equipment. New equipment includes new housing panels, gasketed doors, and fan construction. Prefabrication has made possible more rapid installation of the units.

(A-340)

Flash Ager

A small model of a flash ager for developing vat prints at high speed was shown by Tower Iron Works, Providence, R. I. The flash ager, used in a range after a chemical pad, is said to develop the dye in 15 secs. A mouthpiece and vent system assure air-free steam atmosphere. The steam-heated top and baffled steam inlets are said to prevent water spotting.

(A-341)

▶ A pressure boil-off and dyeing machine for sheer fabrics was shown by Werner Machine Co., Inc., Passaic, N. J. The stainless-steel machine includes a perforated beam through which the liquid is circulated inside out.

(A-342)

▶ A paddle hosiery-dyeing machine shown by Smith, Drum & Co., Philadelphia, Pa., has been altered to enable it to dye sweaters. To prevent corrosion, seams at the corners of the machine have been replaced with rounded corners, and metal parts in contact with the fabric or dyebath have been made of stainless steel.

(A-343)

▶ A combination examining and tubing machine was shown by Van Vlaanderen Machine Co., Paterson, N. J. An automatic cloth guide enables the examiner to give full attention to examining the material. The machine can be used for tubing, examining, or both.

(A-344)

▶ James Hunter Machine Co., North Adams, Mass., showed a laboratory four-unit dye kettle used for laboratory-scale dyeings.

(A-345)

▶ Wiesner-Rapp Co., Inc., Buffalo, N. Y., showed a laboratory-model three-roll pad. Loaded by a pump, the machine can produce a pressure of 300 lbs. per linear inch.

(A-346)

▶ The Woonsocket Napping Machinery Co., Woonsocket, R. I., showed an improved napping machine with an added variable-speed drive.

(A-347)

▶ American Standard Fabricators Corp., New York, N. Y., showed a combination single-package-dyeing and high-speed extracting and drying laboratory unit. The machine is electrically operated, requires no steam, is made of stainless steel, and extracts and dries in an hour.

(A-348)

Loop Dryer-Curer

A model loop dryer-curer was shown by Proctor & Schwartz, Inc., Philadelphia, Pa. The rearrangement of the interior and a new turbine-type fan are said to increase uniform and efficient air movement. The delivery end of the dryer can be arranged for single- or double-strand operation.

(A-349)

Useful Accessories For Textile Mills

▶ To request further information on any item, please use the card in the Reader-Service dept.; refer to the number at the end of the item concerned.

Insect-Control Sprayer

An electrically operated portable sprayer for controlling flying and crawling insects is available from West Disinfecting Co., Long Island City, N. Y. The machine breaks down oil- or water-based insecticides into a dry mist and ejects them under pressure. (U-1)

Gas-Volume Tester

A pocket-size instrument for measuring the volume of any gas is available from J. J. Monaghan Co., Inc., 500 Alcott St., Denver, Colo. Accuracy is within 5% between the flow-rate range of 5 to 65 liters per minute. (U-2)

Live-Roller Conveyor

A new Rapistan powered-roller conveyor in 10-ft. sections with smooth-roller carrying surfaces to eliminate belt-tracking problems and reduce replacement costs is being manufactured by The Rapids-Standard Company, Inc., Grand Rapids, Michigan. Standard speed: 80 ft. per min. (U-3)

Prevents Foot Fatigue

Sponge-rubber matting to prevent foot fatigue for people whose jobs keep them on their feet all day has been developed

PYROTEX

for better scouring

PYROTEX is efficient and economical in the scouring and dyeing of all fabrics and yarns.

PYROTEX is neutral and free-rinsing. It can be used hot or cold; under neutral, alkaline or acid conditions; in hard or soft water.

PYROTEX promotes level dyeing and acts as an excellent dispersing agent for dyestuffs. Reduced crocking results when it is used for soaping-off.

PYROTEX leaves the goods with a clear, bright shade and a soft, pleasing "hand".

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Pass The World's Finest ....Textiles!

HINNEKENS superior equipment offers unequalled economic and competitive advantages. No name means so much to Textile Dyers and Finishers everywhere.

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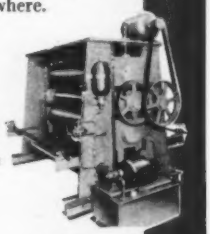
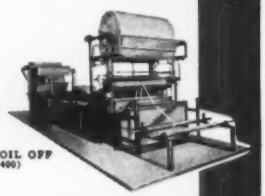
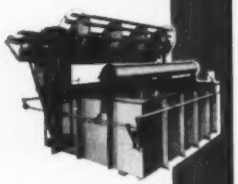


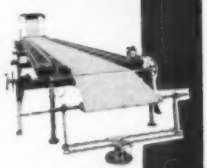
2 CONTINUOUS BOIL OFF (MODEL NO. 400)



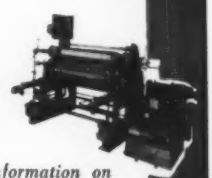
3 DYE BECKS (MODEL NO. 500)



4 TENTERING FRAME (MODEL NO. 900)



5 EMBOSSING MACHINE MODEL NO. 310



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MACHINE COMPANY, INC.

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by the mechanical goods division of United States Rubber Co., Rockefeller Center, New York 20, New York. (U-4)

Improved Towing Tractor

The utility towing tractor made by Clark Equipment Co., Battle Creek, Mich., has been improved by lengthening the driver's platform and relocating the brake pedal, control lever, and exhaust pipe. The engine is equipped with revised piston rings and aluminum pistons. Price stays the same. (U-5)

Small Folding Trucks

Small folding trucks, originally designed to hold business machines, are available from The Federal Cash Register Co., Box 2265, Kansas City 6, Mo. Three sizes, for loads from 25 to 500 lbs., are available. (U-6)

Weight Loss in Drying Oven

Loss in weight of samples in a drying oven can now be determined while the sample is suspended in the oven with a special model of a precision balance made by Fisher Scientific Co., 717 Forbes St., Pittsburgh, Pa. (U-7)

Rubber-Tread Casters

Casters with demountable rubber tires are available from The Bassick Co., Bridgeport, Conn. The soft-rubber treads are available on Bassick's Series 68, H68, and H99 casters. (U-8)

Adhesive for Acetyl Film

A new adhesive for bonding high-acetyl film to fabric has been developed by Polymer Industries, Inc., 284 Sheffield Ave., Brooklyn, New York. It is said to be easily used on gravure or reverse-roller-coating equipment. (U-9)

Acid-Resistant Mortar

A new cement mortar for construction and maintenance work has been developed by Pennsylvania Salt Mfg. Co., 1000 Widener Blvd., Philadelphia 7, Pa. The resin mortar is resistant to acids, alkalis, and most solvents. (U-10)

Heavy-Duty Stapler

A nailing machine that drives staples five times as fast as hand-hammering nails has been developed by Arrow Fastener Co., Inc., 1 Junius St., Brooklyn 12, N. Y. The machine can be used for tagging shipments, fastening tile, tacking posters, etc. (U-11)

Fire Extinguisher

A 2-qt. Pyrene fire extinguisher has been introduced by Pyrene Mfg. Co., 560 Belmont Ave., Newark 8, N. J. The air-pressure unit can be used on electrical and flammable-liquid fires. (U-12)

Azelaic Acid

Commercial quantities of azelaic acid are now available from Emery Industries, Inc., Dept. 5, Carew Tower, Cincinnati 2, Ohio. Azelaic acid is used as a base for resins, plasticizers, etc. (U-13)

More Lift for Lift Trucks

A compound carriage for electric forklift trucks made by Lewis-Shepard Products, Inc., Watertown, Mass., adds 14 ins. of extra lift with no increase in the collapsed height of the truck. (U-14)

Chuck for Threading Machine

A new chuck for pipe and bolt threading machine developed by The Ridge Tool Co., Elyria, Ohio, has a positive forward and reverse grip. It is said to use a new gripping principle. (U-15)

For Better Welding

To extend the cutting, welding, and heating range of its general-purpose oxyacetylene torch, Air Reduction Co., 60 E. 42nd St., New York 17, N. Y., has developed new cutting attachments and a new jet mixer. (U-16)

Water-Resistant Insulation

A new water-resistant insulation has been announced by The Magnesia Insulation Manufacturers Assn., which represents the producers of 85%-magnesia insulation. No damage resulted to the insulation as a result of immersion in boiling water for 378 hrs., with intermittent drying. (U-17)

Pump for Air Conditioners

A new centrifugal pump for air-conditioning applications has been announced by Ingersoll-Rand Co., 11 Broadway, New York 4, New York. It will deliver up to 48 gpm. at heads to 100 ft. Standard jet pump motors, ¾ to 1 hp., are used. (U-18)

Plastic Fabricating Sheets

Nonplasticized polyvinyl chloride sheet, 9x4-ft. in 0.010- to 2-in. thicknesses, is available from the Atlas Mineral Products Co., Mertztown, Pa. The sheet can be heat welded to fabricate structures. (U-19)

Steam-Heated Piping

New steam-heated piping made by Aluminum Co. of America, 1501 Alcoa Building, Pittsburgh 19, Pa., has the steam line integrated into the pipe, instead of an external jacket or tube. Two-inch piping is now available. (U-20)

Electric Fire Door

The manufacturer of Prest-O-Matic industrial doors has announced an electric operator for use with standard inclined-track doors to widths up to approximately 8 ft. Clark Door Co., 515 Hunterdon St., Newark 8, N. J., is the manufacturer. (U-21)

Gas and Oil Burners

A new series of packaged gas burners, oil burners, and combination gas-oil burners for heating and power applications has just been announced by Petro, 3170 W. 106th St., Cleveland 11, Ohio. The units are assembled, wired, piped, and tested at the factory. Stock sizes: gas burners from 3,750,000 to 24,000,000 Btu. input, oil burners from 25 to 145 gph. (U-22)

Coating Compound

A vinyl-coating compound to protect equipment from abrasion and corrosion, applied by brush, spray gun, or dipping, has been developed by Magic Chemical Co., 121 Crescent St., Brockton 2, Mass. (U-23)

WANT TO

Summer Courses

GAIR can help PROTECT YOUR PRODUCT with engineered PACKAGING

Have you ever counted the hazards your product faces during transportation and warehousing? The rough handling and battering, plus pressure from stacking, are conditions that demand positive protection.

To solve the problem, Gair engineers design shipping boxes to give *two-way protection:*

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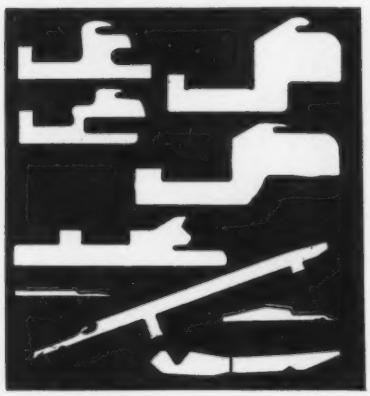

THE ANSWER:

IVES SINKERS AND SLIDERS

Ives products also include all shapes and gauges of Jacks and Transfer Points or Quills for circular hosiery machines and all gauges of Guides, Sinkers and Sley Points for Tricot and Raschel machines.

THE LOYAL T. IVES COMPANY, INC.
Est 1872 NEW BRUNSWICK, N. J.

News of the Month

Deferred Payment

Alfred Hofmann & Co. has inaugurated a plan wherby knitting mills can purchase Hofmann equipment by trading in old or obsolete machinery and making deferred payments.

Flammable-Fabrics Act

General approval of the proposed rules and regulations under the Flammable-Fabrics Act was expressed by the National Federation of Textiles at a hearing before the Federal Trade Commission. It was pointed out that about 93% of the production of the mills in the man-made-fiber and silk branch of the industry is on fabrics not in the possibly hazardous category.

The National Association of Hosiery manufacturers suggested "class" tests on hosiery so that individual mills would not have to make their own tests.

Summer Courses

▶A short course in textile quality control will be held at the School of Textiles, N. C. State College, Raleigh, N. C., August 9 through 13. The course is open to all mill men, regardless of type of job. It will be on the elementary level and aimed at introducing quality control into mills that don't have it. Further information can be obtained from Prof. D. S. Hamby, who will teach the course.

▶A woolen-yarn-manufacturing course has been added to the Professional Development Program at Lowell Technological Institute, June 14 through June 25. Maintenance, workloads, and quality-control methods will be included. Tuition charges will be paid by Davis & Furber Machine Co. Information is available from R. L. Brown at Lowell.

▶A special program in the applied mechanics of textile structures will be offered at Massachusetts Institute of Technology, July 19 through July 30. A background in mathematics is desirable. Tuition is $140.

The Consumer Is Wrong

An analysis of consumer complaints by Jules Labarthe, reported to the Philadelphia Section of the AATCC, revealed that the consumer is wrong more times than she is right when it comes to the exact cause of damage to textile products. Dr. Labarthe pointed out the need for more information on labels.

Mate for SRRL Opener

SRRL CLEANER is now in the "breadboard" stage. When completely developed, the cleaner will be the mate to the SRRL opener. The group of onlookers at Southern Regional Research Laboratory, left to right: W. A. Turner (Avondale), W. G. Regnery (Joanna), C. H. Williams (Swift), G. S. Buck (Cotton Council), C. R. Harris (Erwin), and R. A. Rusca (SRRL). The industry leaders are members of an advisory group on research at SRRL.

NU-FILM

Having weaving troubles? With your present miracle fibers? Or with new complicated blends or styles?

You can make it easy for yourself by using a National 'miracle warp size.'

MIRACLE

FOR MIRACLE FIBERS

WARP SIZE

NU-FILM has more affinity for today's complicated blends than any other size. It'll produce a smooth, tough film on most miracle fiber blends.

You'll find NU-FILM easy to remove. Its soluble groups speed thorough rinsability—usually with only soap and water.

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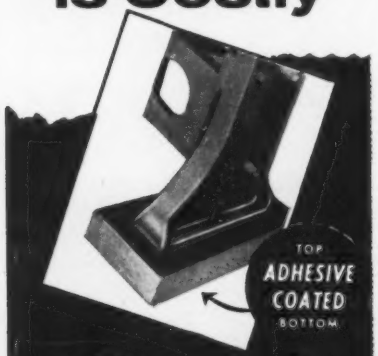
VIBRATION
is Costly



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Adhesive-Coated

FELT MOUNTS!

Mount looms and knitting machines on vibration-dampening WESTSORB. They will last longer, cost less to maintain. No more shut-downs due to ruinous vibration; no more breakdowns of equipment and building structures. You'll have much better employee morale and efficiency when noise is reduced.

It's so simple! WESTSORB is adhesive-coated on both sides, holds firmly on old equipment or new; any floor. No holes, no bolts, and the wiry wool fibres in WESTSORB never fatigue. WESTSORB mounts resist oil, acid, grease, water and age; never fray nor ravel.

There's a special 18-page booklet waiting for you; gives data on actual WESTSORB efficiency tests under looms and knitting machines. Cooperating Western Felt dealers and engineers are located throughout the textile areas. Write today for information, or engineering assistance.

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American Supply Co., Central Falls, R.I.
Odell Mill Supply Co., Greensboro, N. C.
Greenville Belting Co., Greenville, S.C.
Industrial Suppliers, Inc., LaGrange, Ga.

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MANUFACTURERS AND CUTTERS OF WOOL FELTS

NEWS *of the Month*

(Continued)

Torrington's Answer

In answer to the suit filed against the Torrington Co. by the Federal government, this statement has been issued by Torrington:

"The Torrington Company was surprised by the charges made in the suit filed against it during the week of March 29 by the Government alleging violation of the Sherman Anti-Trust Act.

"The Torrington Company has always tried to conduct its business in strict accordance with the law. It has built its reputation by service to its customers and has not resorted to any unfair or unethical practices.

"It proposes to defend the suit vigorously and is confident that the courts will vindicate it fully."

Underwear Men Sponsor Research

The start of a research program by the Underwear Institute for the benefit of its members was announced by Roy A. Cheney, president, at the 88th annual meeting of the institute on May 6. Two scholarships to North Carolina State College are to be sponsored by Jack Goldfarb, president of Union Underwear Co., as the first step in the research program.

Fiber Consumption

The per-capita consumption of all textile fibers will increase from the current rate of 36 lbs. to about 47 lbs. by 1976, according to a study made by W. C. Wheeler for Anderson & Cairns, Inc., an advertising agency. Low consumption years are predicted for 1955, 1966, and 1972 and highs for 1959, 1970, and 1976.

In addition, a survey made by Textile Machine Works predicts a 26% increase in the full-fashioned market by 1967.

End-Use Research

Research on the performance of Dacron and nylon in combination with cotton in aprons and dresses has been started by Linen Supply Association of America, 22 W. Monroe St., Chicago 3, Ill. Controlled consumer tests with 100%-cotton goods will be compared to the use of aprons made with 17% nylon or Dacron and dresses with 17% and 35% of either synthetic fiber.

Research Lab for India

TEXTILE RESEARCH LABORATORY was recently opened in Ahmedabad, India. The $650,000 laboratory was designed by Lockwood Greene Engineers, Inc., based on a survey of similar laboratories in the U.S. A model mill in the building includes U.S., British, and Japanese machinery.

Wool-Jersey Quality

A special committee to study quality standards for knitted wool fabrics has been set up by the Jersey Institute. The committe is aimed at eliminating quality abuses under pressure of price competition.

Textile Calendar

The Textile Institute, annual conference, jointly with the Society of Dyers and Colourists, Grand Hotel, Scarborough, England, June 8 to 11.

STA, annual convention, Ocean Forest Hotel, Myrtle Beach, S. C., June 10 to 12.

Philadelphia Textile Institute, annual alumni reunion, Manufacturers Golf and Country Club, Oreland, Pa., June 11.

ASTM, annual meeting, Sherman and Morrison Hotels, Chicago, Ill., June 13 to 18.

Cotton Merchandising Clinic, Driskill Hotel, Austin, Tex., June 14 and 15.

National Safety Council, Textile Sect. committee meeting, New York, N. Y., June 15 and 16.

Professional Advancement Program, Lowell Tech, Lowell, Mass., June 15 to July 16.

World Congress on Surface-Active Agents, Sorbonne, Paris, France, Aug. 30 to Sept. 3.

Canadian Textile Seminar, Queen's University, Kingston, Ontario, Sept. 9 to 12.

The Fiber Society, fall meeting, in conjunction with Textile Technical Federation of Canada and Canadian Assn. of Textile Colorists, McGill University, Montreal, Canada, Sept. 13 and 14.

AATCC, national convention, Atlanta Biltmore Hotel, Atlanta, Ga., Sept. 15 to 18.

Industrial Packaging and Materials Handling Exposition, Competition, and Short Course, Chicago Coliseum, Chicago, Ill., Sept. 27 to 30 (course), Sept. 28 to 30 (exposition).

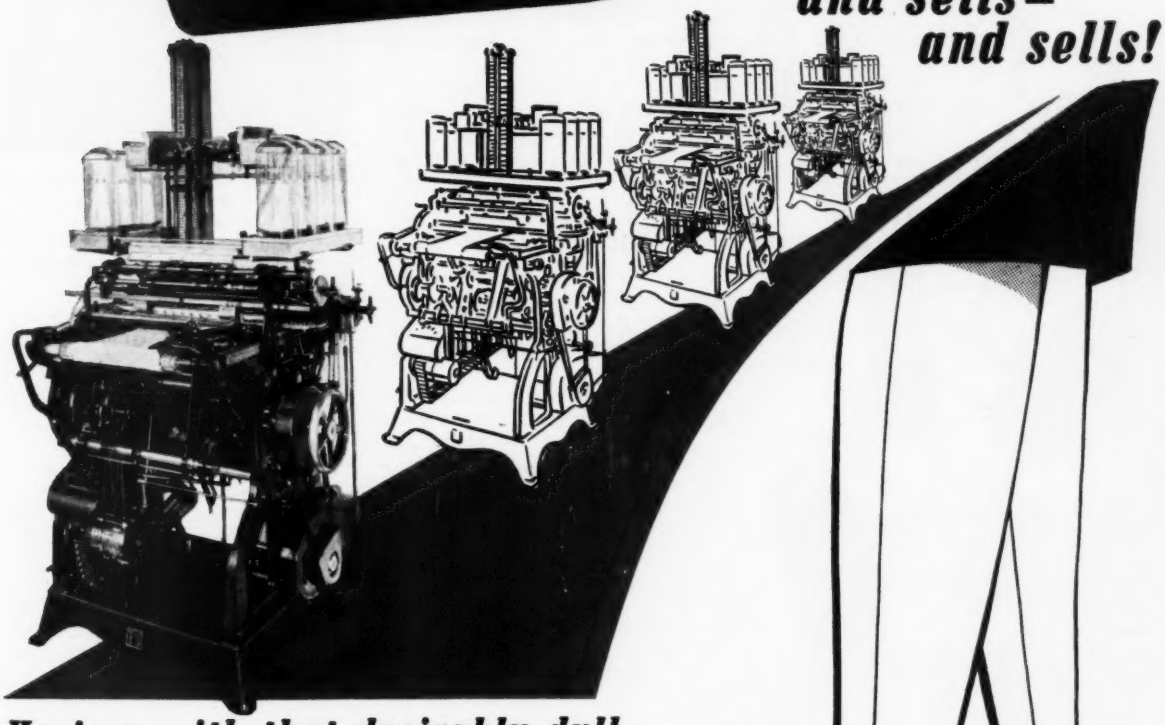
Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 4 to 8.

N. C. Textile Mfg. Assn., annual meeting, Carolina Hotel, Pinehurst, N. C., Oct. 14 and 15.

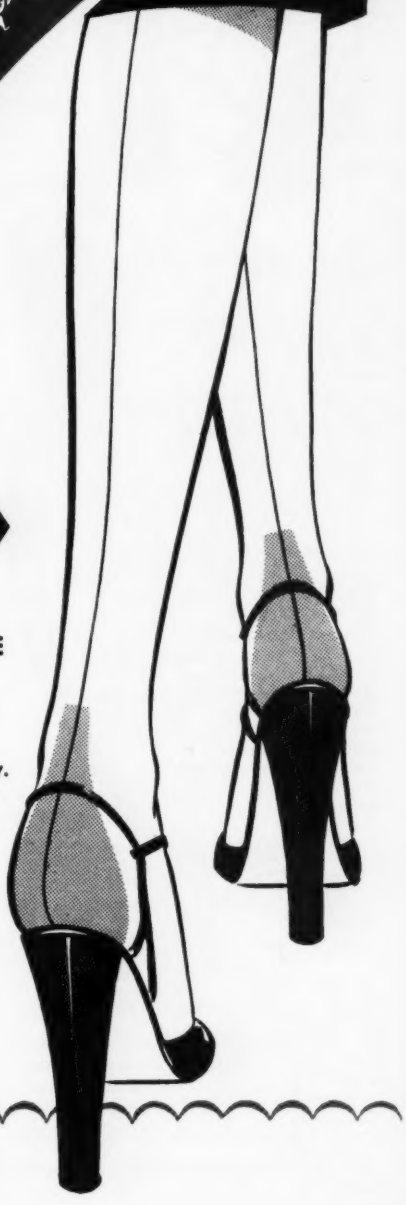
TOE of Georgia, A. French Textile School, Georgia Tech, Atlanta, Ga., Oct. 23.

LINE UP FOR TOP PROFITS in the High Gauge Quality Market!

HOSIERY *that sells— and sells— and sells!*



Hosiery with that desirably dull luxurious look!



THE WILDMAN 75 GAUGE FULL FASHIONED HOSIERY MACHINE

Tempt the consumer to buy top-gauge hosiery — often.

But be sure you give her the highest quality and performance in the hosiery she demands, so she will specify your brand — again and again.

The WILDMAN 75 is your basic production unit to keep her sold on your hosiery. As always, this machine is a high production, efficient, economical, automatic-in-operation unit. In the special production of high-gauge hosiery, this means you will be selling elasticity and durability in 75 gauge hosiery that will remain constant — in pair, after pair, after pair.

HOSIERY that sells and sells and sells — there's your profit picture, when you use the WILDMAN 75 . . . Inquire today for complete details.

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Model PD-1

Model K-2

You get *accurate*, almost instant, moisture content readings in **wool, cotton, rayon, nylon—practically any type of textile**—when you use Moisture Register Model PD-1 or Model K-2.

Either model gives you "on-the-spot" readings with guaranteed accuracy. They're simple to operate, require no technical knowledge or skill, weigh only 6 pounds, easily portable.

Model PD-1 tests textiles in loose or compressed forms with 3" penetration. Model K-2 tests cones, beams, rolls and similar forms.

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Use one of these instruments **FREE** for 10 days. No obligation! Prove for yourself that Moisture Register will help you maintain higher standards, iron out production headaches, add to your reputation as a manufacturer of quality products. Fill out coupon, mail today!

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NEWS *of the Month*

(Continued)

In-Place Carpet Cleaning

A study of in-place cleaning of cotton carpets and room-size rugs will be made under contract for the U. S. Dept. of Agriculture by The Hoover Co., North Canton, Ohio. This research was one of the recommendations made by the USDA's Cotton Research Advisory Committee. If a portable cleaning machine for cotton rugs can be developed, the USDA figures more cotton will go into rugs.

New England Wages

The New England Textile Committee (representing labor, management, and the public) recently made three statements concerning wage laws:

1. Recommended a minimum wage higher than the current 75¢ per hour.
2. Approved the action of the Secretary of Labor in setting industry-wide standards under the Walsh-Healey Act.
3. Urged the repeal of the Fulbright Amendment to the Walsh-Healey Act. This amendment "has resulted in delay and obstruction to the minimum wage orders."

Fibers

► Two new colors, Slate Gray and Turquoise, have been added to the range of Coloray dope-dyed rayon staple available from Courtaulds, Inc. Both colors are available in 1.5-den., 1-9/16-in. and 3-den., 2-in. staple.

► Rilsan, a new synthetic polyamydic fiber made from vegetable materials, has been developed by Snia Viscosa, an Italian producer, and is said to have successfully passed tests.

► American Enka Corp. is now producing nylon staple on a commercial basis in its Enka, N. C., plant. By the end of the year, tire cord and filament nylon is expected to be in production.

► Nylon roving for plastic reinforcements has been developed by Klug Engineering Service, Los Angeles, Calif.

► Celanese Corp. of America has developed a method of combining yarns of contrasting colors and deniers to obtain random color effects. The method is used with spun or slubby yarns or with a combination of filament and spun yarns.

Ban-Lon Is Explained

THE BAN-LON PROCESS was recently explained at a conference held by Riverside Silk Mills Ltd., Galt, Ont., a licensee of the texturing process. Patents for the Ban-Lon process are held by Joseph Bancroft & Sons Co.

Mill Developments

► Pepperell Mfg. Co. has come out with a top-fitted all-nylon sheet. The sheet has a dobby weave.

► Pilot Full Fashioned Mills is now putting Helanca yarn into briefs for men and women. Helanca yarn is also going into 15-gauge welts at Dexdale Hosiery Co.

► Princeton Hosiery Mills was the first mill to develop a line of girl's socks made of Du Pont's Taslan textured nylon. Esquire Socks is putting Taslan yarn into men's half hose.

► Coats & Clark, Inc., is producing Dacron sewing thread in 18 colors, plus black and white.

► Malibu Fabrics, Inc., has developed a Nu-White process for dyeing and finishing white elastic materials to match rigid cotton fabrics used in the foundations trade.

► Nylon cord for tires is being prestretched under controlled conditions to give maximum strength and resiliency by a multimillion-dollar process developed by Goodyear.

► Schwarzenbach Huber Co. has introduced a new family of fabrics called Worstrella. The Worstrella yarn, developed in cooperation with Tennessee Eastman, is said to be "neither filament nor spun," but to combine the best characteristics of each. The fabrics have a "dry, crisp, wrinkle-resistant quality."

► Lanolized, Inc., has introduced a new finish for nylon textiles called Lanolized. The new finish gives stockings a soft, silky handle. The process is to be made available to the trade.

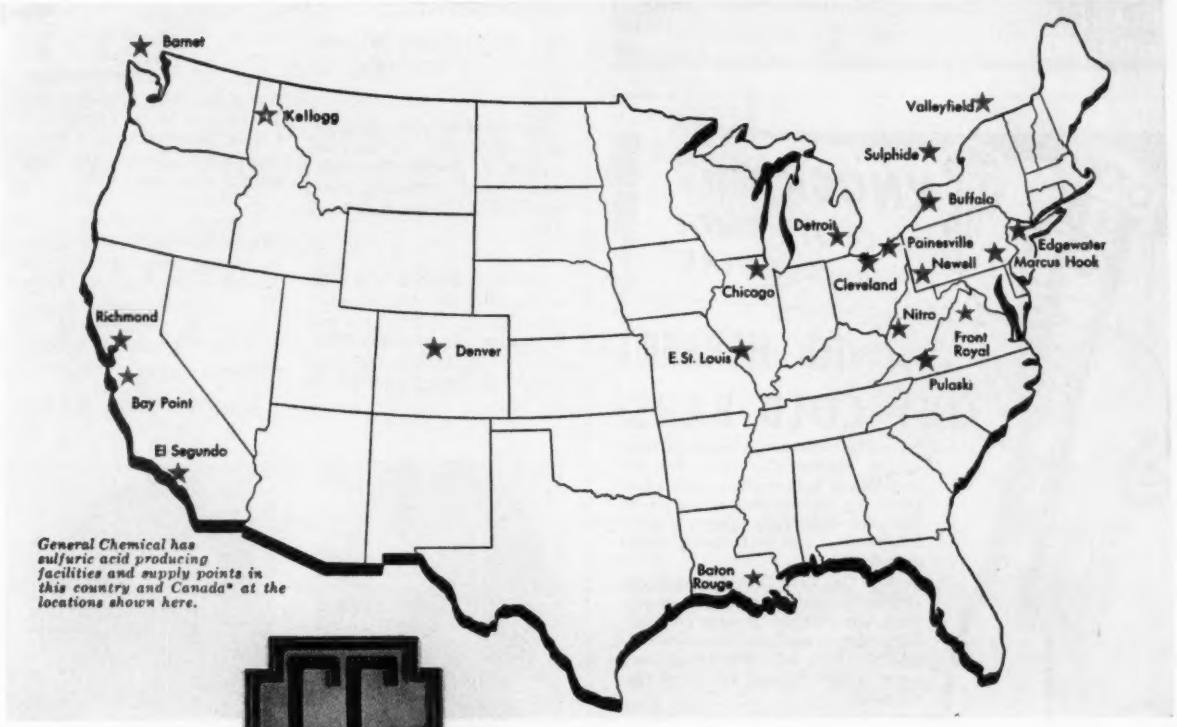
If Sulfuric Acid is one of your Major Process Requirements

...have you considered locating in these strategic spots? ★

East . . . West . . . or wherever else sulfuric acid is required, General Chemical keeps pace with industry, creating new and better facilities to serve industry's ever-growing demands . . . to assure fast, efficient service!

Today, General provides twenty-one sources of supply in industrial centers across the country. Each is well geared to serve regional requirements, offering customers the advantages of "next door" location to General's modern plants. Virtually every one of these areas is strategically situated . . . ideal for new industrial developments, with large acid facilities already installed to provide their needs.

If you are considering a new plant location . . . and sulfuric acid is one of your major process needs . . . why not discuss your plans with a General Chemical representative? Perhaps he can provide vital information on acid availabilities that will help you in your decisions.



General Chemical has sulfuric acid producing facilities and supply points in this country and Canada at the locations shown here.*

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- **NO WIRE ON LOADING SIDE.**

***Patent Pending**

Southern Representative
Ralph Gossett & Company
Greenville, So. Carolina

New England Representative
American Supply Co.
Central Falls, R. I.

HEANIUM — *the best guide to lower costs.*
HEANY INDUSTRIAL CERAMIC CORP. New Haven 3, Conn.

KNOCK OUT
COSTLY STATIC IN YOUR PLANT

. . . with HERBERT OXY COLD BARS!

Proved by effective performance, inexpensive Herbert Oxy Cold Bars are unsurpassed for complete static elimination on any material or equipment. Operated electrically, they are absolutely safe . . . no arcs, sparks, shocks or radiation.

Herbert Oxy Cold Bar advantages can efficiently protect production in your plant, too—improve quantity and quality, reduce spoilage, and increase profits! For full information and prices, please forward details of your machines.

HERBERT PRODUCTS INC.

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NEWS ABOUT Suppliers

EQUIPMENT SUPPLIERS

American Air Filter Co., Louisville, Ky., has elected Howard M. Fitch a vice president.

American Machine & Metals, Inc., East Moline, Ill., has appointed Seymour Weinstein technical director of the Niagara Filters Div.

Babcock & Wilcox Co., New York, N. Y., has elected Edward A. Livingstone, vice president, to the board of directors. W. J. Thomas has been named a vice president. He was formerly general manager of the Tubular Products Div.

Borg-Warner Corp., Chicago, Ill., has named Marion V. Bailiere, Jr., controller of Morse Chain Co., a Borg-Warner subsidiary.

The Carborundum Co., Niagara Falls, N. Y., has appointed F. Jerome Tone, Jr., senior vice president and Frederick T. Keeler director of sales.

Century Electric Co., St. Louis, Mo., has opened a district branch office at 634 S. Cedar Street, Charlotte, N. C. T. K. McKany has been appointed district manager of the office.

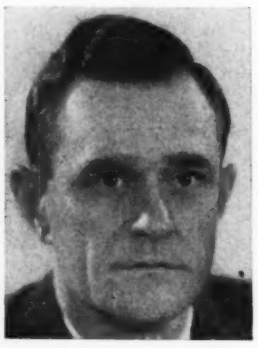
Clark Equipment Co., Buchanan, Mich., has appointed Thompson & Johnson Equipment Co., Inc., Syracuse, N. Y., as its dealer in that area for fork lift trucks and other materials-handling equipment.

Container Corp. of America, Chicago, Ill., has placed Frank J. Sauer in charge of general purchasing. Norman C. Myers has been named director of purchasing. Edward J. Kirstein has been named general manager and William D. Jackson assistant general manager of the Ogden Ave. shipping plant in Chicago. Ralph E. White and David R. Riggs have been named divisional general managers of shipping-container plants in Indiana, Ohio, and the Eastern states. Frederick S. Crysler, Lawrence A. Combs, and Balfour Phelan have been elected vice presidents.

Crompton & Knowles Loom Works, Worcester, Mass., plans to increase the volume of its Special Manufacturing Dept. The change will add a diversification of products to its primary business of building looms.

Fairbanks, Morse & Co.,

WALTER P. MURRAY has been named sales manager of Mount Hope Machinery Co. Mr. Murray will be located in the company offices in Taunton, Mass.



WILLIAM R. MULLER has been elected vice president of The Bullard Clark Co., with divisions located at Danielson, Conn., and Charlotte, N. C.

Here's How Du Pont's Exclusive Cloth Heater

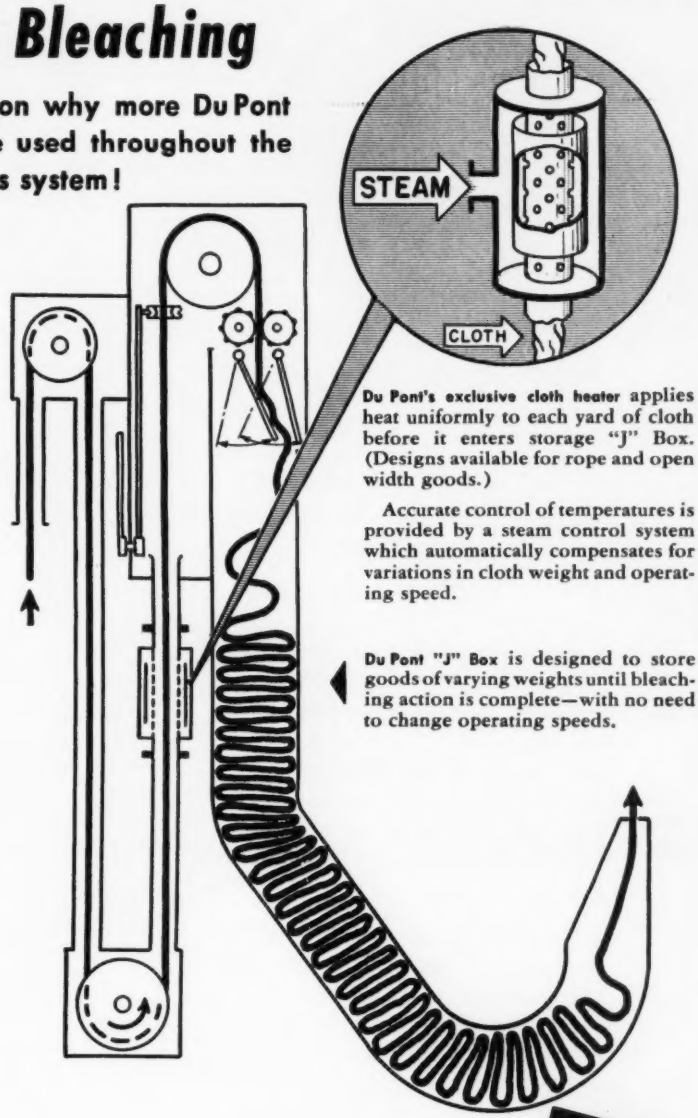
Assures Uniform Bleaching

This unique feature is one reason why more Du Pont Peroxide Bleaching Systems are used throughout the world than any other continuous system!

You are assured uniform bleaching —independent of cloth weight or operating speed—because Du Pont's exclusive cloth heater is designed to heat each yard of cloth *before* it moves into the storage "J" Box. Uniform heating, of course, means uniform bleaching and dyeing.

After the cloth is heated to just the right bleaching temperature, it moves into the "J" Box, which is especially designed to hold goods of varying bulk. In this way, you get the flexibility of running either light or heavy goods without changing operating speed. And you can be sure that all goods remain in storage long enough to complete the bleaching action.

LET DU PONT SHOW YOU how its peroxide bleaching processes and specialized services can help you. For more information, call your Du Pont representative or send in the coupon below.

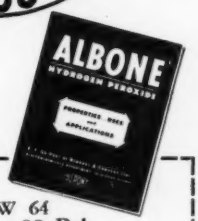


Du Pont's exclusive cloth heater applies heat uniformly to each yard of cloth before it enters storage "J" Box. (Designs available for rope and open width goods.)

Accurate control of temperatures is provided by a steam control system which automatically compensates for variations in cloth weight and operating speed.

Du Pont "J" Box is designed to store goods of varying weights until bleaching action is complete—with no need to change operating speeds.

FOR MORE INFORMATION MAIL THE COUPON BELOW



DUPONT PEROXIDES FOR BLEACHING

ALBONE®

"ALBONE" 35.....hydrogen peroxide 35%
"ALBONE" 50.....hydrogen peroxide 50%

DU PONT
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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

E. I. du Pont de Nemours & Co. (Inc.) TW 64
Electrochemicals Department, Wilmington 98, Del.

☐ Please send me your reference book on "Albone" hydrogen peroxide.

☐ Please send me more information about your processes and services. I am bleaching _____

Name _____ *Position* _____

Firm _____

Address _____

City _____ *State* _____

Mount Hope SYSTEM

WE APPRECIATE

. . . the interest and enthusiasm shown by all who visited our booth at the A.T.M.A. Exhibition, and watched our running demonstration of Mount Hope System cost production saving devices.

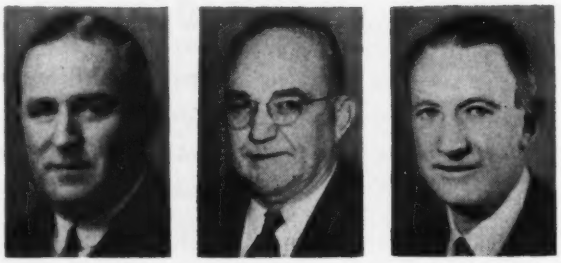
To those who missed the Exhibition, or who want to study in detail the advantages the Mount Hope System assures their production, we extend a cordial invitation: Come to our plant, to see the running demonstration set up for your convenience in our showroom. Bring your own fabrics or materials — test them *right here* to find out at first hand what the Mount Hope System can do for you.

If it isn't convenient for you to come to Taunton, have Mr. Walt Murray — our sales manager — arrange for a call at your plant at your convenience. Our Mount Hope Cost Production experts will estimate how much *you can save* in lost profits — and will *prove every claim* we make for the Mount Hope System.

MOUNT HOPE MACHINERY COMPANY
15 FIFTH STREET • TAUNTON, MASS.

260 For more information, write direct or use Reader Service post card.

News About **SUPPLIERS** (Continued)



SCHUYLER E. TYLEE (left) has been elected president of Jacques Wolf & Co., Passaic N. J. GERALD J. DESMOND (center) has been elected vice president, treasurer, and general manager; and ARNOLD PFISTER (right) has been elected secretary and plant manager

Chicago, Ill., has organized a new Electronics Div. This division will be responsible for research, development, application engineering, and manufacture of electronic devices and apparatus used with its various products. The company has elected O. S. Leslie to the board, J. A. Cuneo vice president in charge of sales, and Robert B. Craig a vice president. Mario A. Gasque has been appointed general manager of Fairbanks, Morse de Mexico, S. A., and Manufacturera Fairbanks, Morse, S. A.

The Felters Co., Boston, Mass., has transferred Parker N. Wheeler to the Jackson, Mich., plant, where he will be in charge of market-development work. James W. Morrison has been named manager of the Unisorb Div., Boston, succeeding Mr. Wheeler.

Fisher Scientific Co., Pittsburgh, Pa., has appointed F. Leonard McCauley production manager. Mr. McCauley will head all Fisher design, instrument shop, inspection, and dispatching units.

Foxboro Co., Foxboro, Mass., has completed a new branch factory in Dallas, Tex. The new plant contains 13,000 sq. ft. of floor space.

Graver Water Conditioning Co., New York, N. Y., has appointed David M. Spillane Chicago district manager.

Holyoke Machine Co., Holyoke, Mass., has appointed Industrial Equipment Co., Charlotte, N. C., as sales representative for the Holyoke textile calender and embossing rolls in the states of Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. Alexander F. Schenck will be in charge of sales of Holyoke textile rolls for Industrial Equipment Co.

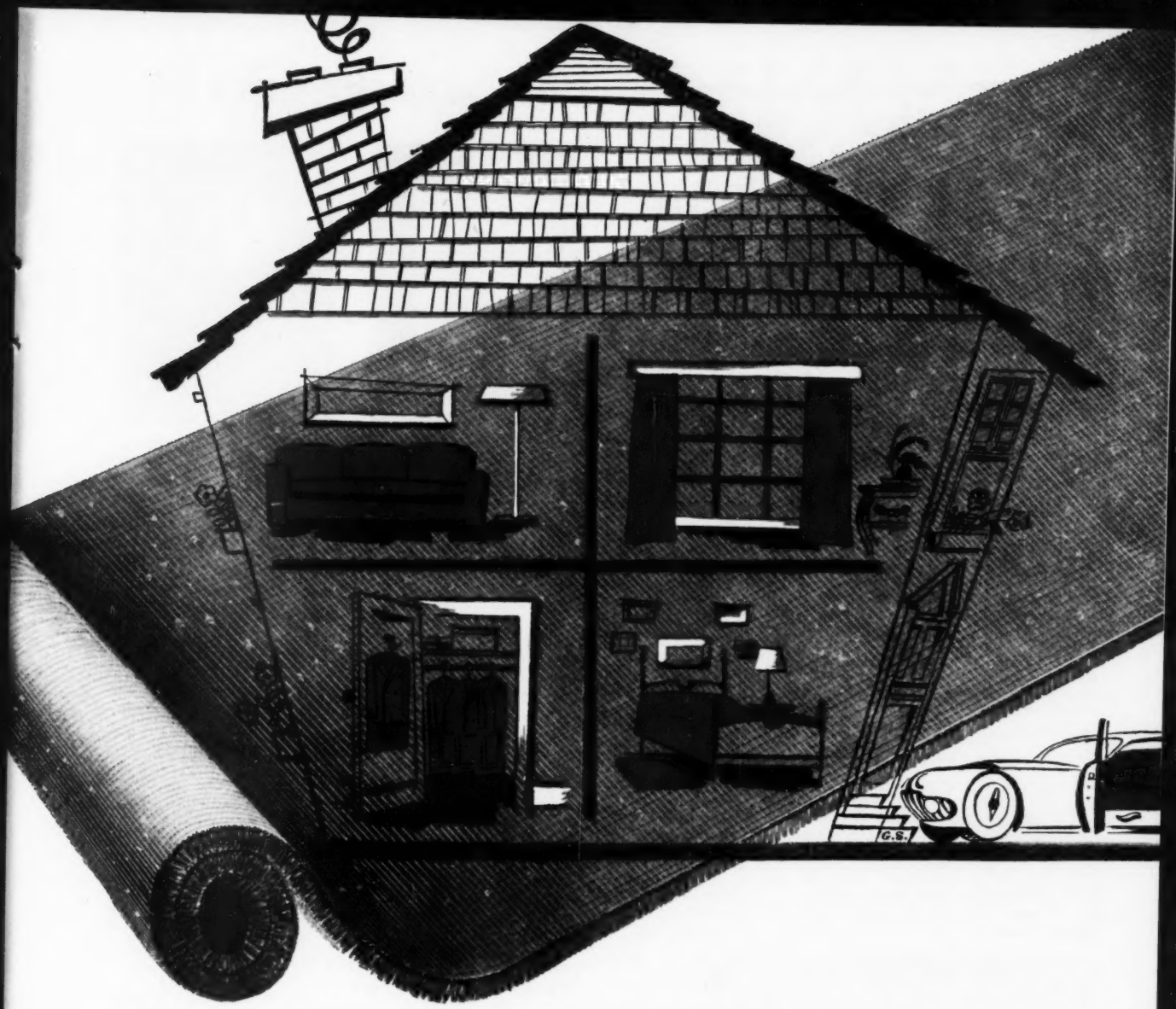
Minnesota Mining & Mfg. Co., St. Paul, Minn., has named Fred L. Hayes sales manager in the Atlanta, Ga., and High Point, N. C., area; Robert W. Draine sales manager in Dallas, Texas; William E. Woods sales supervisor in New York, N. Y.; and Richard H. Burhoe sales supervisor in the Boston, Mass., area. The company has elected B. B. Countryman a vice president. I. R. Hansen has been elected assistant treasurer.

Oilgear Co., Milwaukee, Wis., has opened a new office in Rockford, Ill. Maurice E. Grant will be in charge of this office.

Package Machinery Co., East Longmeadow, Mass., has purchased the Transparent Wrap Machine Corp., Hasbrouck Heights, N. J.

Standard Pressed Steel Co., Jenkintown, Pa., has promoted Edwin Y. Bready to division manager of the Hallowell Pressed Steel Div. Charles A. Thomas, Jr., has been given company-wide charge of production control, quality control, estimating, and cost analysis in addition to serving as manager of industrial relations and industrial engineering. James L. McDowell has been made superintendent of manufacturing, Fastener Div.

Superior Combustion Industries, New York, N. Y., has



When Textile Executives "SEE RED" *it's time to coat with* KRALAC®

- **Do coating compounds often cause dye *discoloration and breakdown* in your upholstering fabrics?**
- **Do your decorative flat fabrics sometimes suffer from *poor body and strength*?**
- **Do finishing materials in your rayon fabric processing tend to *rub off and become tacky*?**

Then, it's high time you used Kralac and stopped "seeing red" when mill reports continually indicate coating and finishing problems.

New Kralac is a plastic latex especially developed by Naugatuck Chemical for coating and finishing both pile and flat fabrics. Not only does it end dye discoloration, it also improves locking, tensile and tear strength. And it never rubs off and becomes tacky. What's more, Kralac has far superior clarity, **is practically odor-free, gives high tensiles without curing.**

Whether you manufacture carpets, automotive interiors, shower curtains or any other fabric, it will pay you to coat with Kralac. It needs no expensive and complicated equipment—**can be applied by standard coating methods in mills everywhere.**

Find out how Kralac can **turn your problems into profits**–can give your product a millful of wonderful new properties quickly, easily, safely and surely. Send the coupon below.

Naugatuck Chemical, **326** Elm St.
Naugatuck, Conn.

Please send technical data on Kralac for textiles to:

Name_____

Title_____

Company_____

Address_____

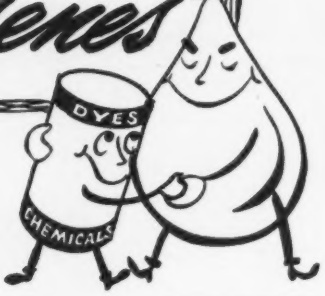
City_____ Zone____ State_____

Naugatuck Chemical

NAUGATUCK, CONNECTICUT *Division of United States Rubber Company*

BRANCHES: Akron • Boston • Charlotte • Chicago • Los Angeles • Memphis • New York
Philadelphia • IN CANADA: Naugatuck Chemicals, Elmira, Ontario

the Synergistic Versenes®



WHAT "SYNERGISTIC" MEANS

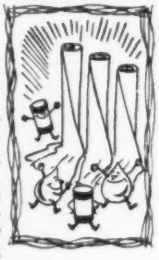
When one chemical cooperates with one or more other chemicals to make them all work better together than each could work separately, the action is called "synergistic". This explains why the synergistic Versenes are so valuable to textile processing. From cleaning and scouring processes right on through dyeing and finishing they furnish synergistic action that cuts costs, improves quality, enhances appearance.

THE PROFITABLE PARTNERSHIP

When one or more of the Versenes is properly added to your wet processing formulas it can insure cleaner fibers, softer hands, whiter bottoms and brighter colors. It can prevent or remove iron, lead and other metallic stains. It solubilizes "insolubles", increases color fastness, prevents shade changes, spotting, streaking and crocking — keeps dyeing on the level.

GUARANTEED QUALITY

The synergistic action of the powerful Versene Chelating Agents is your assurance of satisfaction. Made only under F. C. Bersworth patents and process, the Versenes are extremely stable at high temperatures throughout the pH range. Chelating power is guaranteed in sample or carload lots. Available as several formulas in liquid or powder form. Send for Technical Bulletin No. 2 and samples. On complicated problems ask for Chemical Counsel.



VERSENE WATER TEST KIT. Tells Total Hardness in 2 minutes. Accurate to 1 grain per gal. Versenate Method. Complete with instructions $5.00 Postpaid.

"Chemistry's most precise chemicals"

BERSWORTH CHEMICAL CO.

FRAMINGHAM, MASSACHUSETTS

KEY TO CHELATION

WAREHOUSE STOCKS

Chas. S. Tanner Co., Liberty Life Bldg., Charlotte, N. C.
Kraft Chemical Co., Inc., 917 West 18th Street, Chicago 8, Illinois
Siegel Chemical Co., One Hanson Place, Brooklyn 17, New York
George Mann & Co., Inc., 251 Fox Point Boulevard, Providence, Rhode Island
Barada & Page, Inc., Houston, Dallas, Corpus Christi, New Orleans, St. Louis, Wichita, Oklahoma City, Tulsa, Kansas City, Mo.
Braun-Knecht-Heimann Co., San Francisco, California
Van Waters & Rogers, Inc., Seattle, Wash. & Portland, Ore.
Braun Corporation, Los Angeles, California

News About **SUPPLIERS** (Continued)

DYER S. MOSS (left) has been named president of the newly formed Carbic-Moss Corp., Charlotte, N. C., and New York, N. Y. CARL W. KUHL, II, (right) has been named executive vice president. This new company combines the selling division of Carbic Color & Chemical Co., Inc., and the Dyer S. Moss Co., Inc.

appointed Frank F. Hornholt manager of its Water-Tube Steam Generator Div.

Warner Electric Brake & Clutch Co., Beloit, Wis., has named Norman K. Anderson general sales manager.

Westinghouse Electric Corp., Pittsburgh, Pa., has appointed C. B. Campbell chief engineer for the South Philadelphia, Pa., Steam Div.

Worthington Corp., Harrison, N. J., has named Fred J. Watt manager of the Central States & Ammonia Equipment Section.

CHEMICAL AND YARN SUPPLIERS

American Cyanamid Co., New York, N. Y., has named Erhart K. Drechsel to its Market Research Dept.

Arnold, Hoffman & Co., Inc., Providence, R. I., has named Alfred Carter, to head the new Teterboro, N. J., sales-service laboratory. The laboratory is located in the same building as the company's Teterboro offices.

Atlas Powder Co., Wilmington, Del., has named Dixon C. Van Winkle to manage its chemicals department New York district sales office. He succeeds L. G. Parkinson, resigned.

Diamond Alkali Co., Cleveland, Ohio, has elected Raymond F. Evans chairman of the board and John A. Sargent president of the company.

Dixie Size & Chemical Co., Columbus, Ga., has appointed Hayes & Richardson Co., Spartanburg, S. C., exclusive sales agents.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has appointed T. Nash Broaddus assistant manager of the fabric-development group of the Textile Fibers Dept. William J. McAlarney, Robert S. Mueller, Jr., and Robert Lessing have been transferred to the Textile Fibers Dept. nylon sales office, New York, N. Y.

Filo Color & Chemical Corp., New York, N. Y., has been appointed exclusive agents in this country for N. V. Chemica of Beverwyk, Holland, producers of yellow prussiate of potash (potassium ferrocyanide).

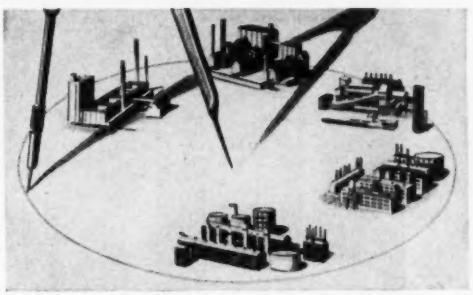
Geigy Chemical Corp., New York, N. Y., has named Hubert A. Des Marias manager of the Industrial Chemicals Div. He will be located at the main office in New York.

Goodyear Tire & Rubber Co., Chemical Div., Akron, Ohio, has named R. E. Workman assistant to the general manager, C. O. McNeer general sales manager, and M. J. Rhoad assistant to the general sales manager.

Hooker Electrochemical Co., Niagara Falls, N. Y., has promoted Harris C. Miller from

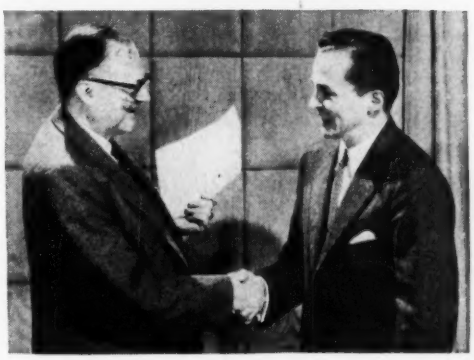
A Tour of SOLVAY

WOULD SHOW YOU WHY BUYERS CALL SOLVAY® FIRST!



If You Could Visit the five great plants that make SOLVAY chemicals, you'd view the *biggest, most modern* alkali manufacturing facilities in the world! You'd also observe how highly-skilled production men utilizing the latest production methods assure you of SOLVAY quality that's been unsurpassed for over 70 years.

As You Walked Through SOLVAY's Laboratories, you'd no doubt be fascinated by the vast equipment of the largest alkali research facilities in the industry! You'd see SOLVAY's Technical Service with *separate* sections for *different* industries. You'd meet SOLVAY's *industry-wise* consultants who can offer you services not ordinarily available. You'd get first-hand information on how SOLVAY could help you with problems involving the handling, storage and use of SOLVAY products.



If You Went to any one of SOLVAY's 13 Branch Offices you'd talk to the manager as well as the trained and experienced field representatives who help you get the traditional SOLVAY service—whether you purchase a single package or in multiple carloads. They'd show you the location of over 200 local distribution centers that are strategically situated to give you quick, efficient, dependable delivery service.

To get complete details on how SOLVAY can best serve your specific needs and requirements, write or phone your nearest SOLVAY office today!

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Soda Ash • Snowflake® Crystals • Potassium Carbonate
Calcium Chloride • Sodium Bicarbonate • Ammonium Bicarbonate • Cleaning Compounds • Caustic Potash
Sodium Nitrite • Ammonium Chloride • Chlorine • Caustic Soda • Monochlorobenzene • Para-dichlorobenzene
Ortho-dichlorobenzene

SOLVAY PROCESS DIVISION
ALLIED CHEMICAL & DYE CORPORATION
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Allied Chemical

BRANCH SALES OFFICES:
Boston • Charlotte • Chicago • Cincinnati • Cleveland
Detroit • Houston • New Orleans • New York
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NOW BOGER and CRAWFORD OFFERS

PLUS-4

HIGH TEMPERATURE DYED YARNS

1. FASTER COLORS
2. MORE COLORS
3. TESTED COLORS
4. FOR ALL TYPES OF YARNS

GUARANTEE

The Quality of Boger & Crawford Yarn is guaranteed — the highest tribute we can pay it!

Signed

Fredericka Boger

ORLON . . . NYLON . . . COTTON . . . MERCERIZED . . . YARNS are now dyed by BOGER & CRAWFORD with their new PLUS-4 HIGH TEMPERATURE method! Advantages are many! Faster Colors! A greater range of colors! Tested Colors! For all types of yarns!

Counts: 30/2 to 120/2 inclusive C. P. mercerized as well as 30/1 to 70/1 inclusive Combed Peeler as well as 60/1 to 80/1 and 60/2 to 80/2 spun nylon . . . color fastness equal to or better than Synthetic Fiber Test #1 and #2 AATCC.

Boger & Crawford is also "tops" in bleaching . . . its bleached yarn is *permanent* white, widely used for knitting.

FREE SAMPLES SENT UPON REQUEST. WRITE US TODAY. You will quickly see the advantages of PLUS-4 High Temperature Dyed Yarns.

BOGER and CRAWFORD

"K" and E. VENANGO STS., PHILADELPHIA 34, PA., U.S.A.

SPINNING PLANT— BOGER CITY, N. C.

News About **SUPPLIERS** (Continued)

WILLIAM C. BUFFING, JR., has been named controller of National Starch Products, Inc., New York, N. Y.

THOMAS A. PRINTON has been elected chairman of the board and president of Napco Chemical Co., Harrison, N. J.

sales representative in the New York district to assistant district sales manager of the company's New York district sales office. Dr. Frank W. Long of Niagara Falls has been transferred from the research and development department to the sales-development group of the sales department.

Koppers Co., Inc., Pittsburgh, Pa., has named George M. Walker vice president and general manager of the Koppers Chemical Div. He succeeds the late Dan. M. Rugg. Ralph Winslow has been appointed a departmental vice president.

Metro-Atlantic, Inc., Centredale, R. I., has appointed Henry Papini executive vice president. Mr. Papini, who operates from Greenville, S. C., was formerly vice president of Metro-Atlantic, Inc.

National Vulcanized Fibre Co., Wilmington, Del., will build a new research laboratory to enlarge the facilities of the company's research and development section.

Owens-Corning Fiberglas Corp., Toledo, Ohio, has elected Edward J. Detgen and William M. Keller vice presidents of the company. Mr. Detgen will be located in Toledo and Mr. Keller will be located at the company offices in New York, N. Y.

Pennsylvania Salt Mfg. Co., Philadelphia, Pa., has appointed Joseph S. McCulloch manufacturer's representative for the Corrosion Engineering Products Dept.

Permutit Co., New York, N. Y., has appointed J. Harrahill plant manager and F. K. Richardi assistant plant manager of the new Lancaster, Pa., division.

Polymer Industries, Inc., has opened a new plant in Springdale, Conn. The new plant consolidates former operations at Astoria, L. I., and Brooklyn, N. Y. The company has appointed Carl R. Bellwood technical director of the Textile Div.

Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich., has appointed Lewis M. Ludlow field representative of the Pacific district office. He will be located in San Francisco, Calif.

OTHER SERVICES

Foster D. Snell, Inc., New York, N. Y., has promoted Dan Schoenholz to director of the Product Development Dept. Bernard Berkeley has been named assistant director of the department. Gabriel Appleman will be in charge of process design; S. E. Taub will handle purchasing for the Hull Co., Foster D. Snell Research, Inc.; G. J. Bayern will be in charge of package engineering; and J. W. La Cerra will head the Spray Dryer Section. John Hegedus and L. Petrone have joined the company as junior chemical engineers.

Desize with EXSIZE -T*

For reliable, efficient, economical preparation of cloth prior to bleaching, dyeing, printing and special finishing, depend on EXSIZE-T.

Let us help solve your desizing problem.

Send for free sample and data.

PABST BREWERIES*

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221 N. La Salle Street
Chicago 1, Illinois

*Registered trademarks of Pabst Brewing Company

SULPHUR-DIOXIDE
HIGHEST QUALITY
IT'S SO_2
...RIGHT ON THE HEAD!

In a large number of processes, a more satisfactory and economical operation is achieved through using Tennessee's highest quality Sulphur-Dioxide. Maybe you have a specific operation problem in which this product would hit the nail on the head. Many plants and refineries have already discovered the way to higher profits and better results by using our product with its many uses. We can supply Tennessee's highest quality Sulphur-Dioxide in cylinders, ton drums, tank cars, and tank trucks. Let our own technical experts show you how you might employ it to your greatest advantage.

CONTAINERS

- Cylinders
- Ton Drums
- Tank Trucks
- Tank Cars

Samples, Specifications and Detailed Information on Request.

TENNESSEE CORPORATION

617-29 Grant Building, Atlanta, Georgia

NEWS ABOUT Mills

COTTON MILLS

Brookwood Mills, Taylorsville, N. C., has been purchased by Julius W. Abernethy, Newton, N. C.

Buck Creek Cotton Mills, Siluria, Ala., has acquired equipment from Anniston Yarn Mills, Inc., Anniston, Ala. Anniston has discontinued operations.

Cabin Crafts, Inc., Dalton, Ga., has completed a new addition to its Springdale Mill. About 103,000 sq. ft. of floor space has been added.

California Cotton Mills, Inc., Uniontown, Ala., a division of National Automotive Fibers, Inc., has been acquired by C & H Enterprises, Atlanta, Ga. The new management will operate the mill until present orders are filled.

Coastal Mills, Inc., recently organized, has purchased Plant No. 1 of Carolina Mills, Dillon, S. C., and has an option on Plant No. 2. Principals of Coastal Mills are E. E. Stone, Sam Snoddy, J. M. Law, and M. C. Patten. Mr. Law is president and Mr. Snoddy is general manager.

Collins & Aikman Corp. is moving its yarn-control department from Plant B in Philadelphia, Pa., to the company's plant at Norwood, N. C.

Dixiana Mills, Inc., Dillon, S. C., has awarded the contract for a mill addition to cost about $300,000 to Daniel Construction Co., Greenville, S. C.

Firestone Textiles, Gastonia, N. C., has completed a 12,500-sq.-ft. addition to its weave room. The addition will accommodate part of the machinery from the company's Roanoke, Va., plant, including looms, cable twisters, and a ply respooler.

Inman Mills, Inman, S. C., and **Riverdale Mills,** Enoree, S. C., have merged. James A. Chapman, Sr., of Inman Mills will continue as president and treasurer. No plant or personnel changes were involved.

Macanal Mills, Salisbury, N. C., recently completed a program of renovation and modernization. This mill, which formerly manufactured only combed yarn, will also manufacture carded yarn.

Andrew Y. Michie & Sons Co., Philadelphia, Pa., will build a narrow-fabrics plant at Milville, N. J. The one-story plant will contain 32,000 sq. ft.

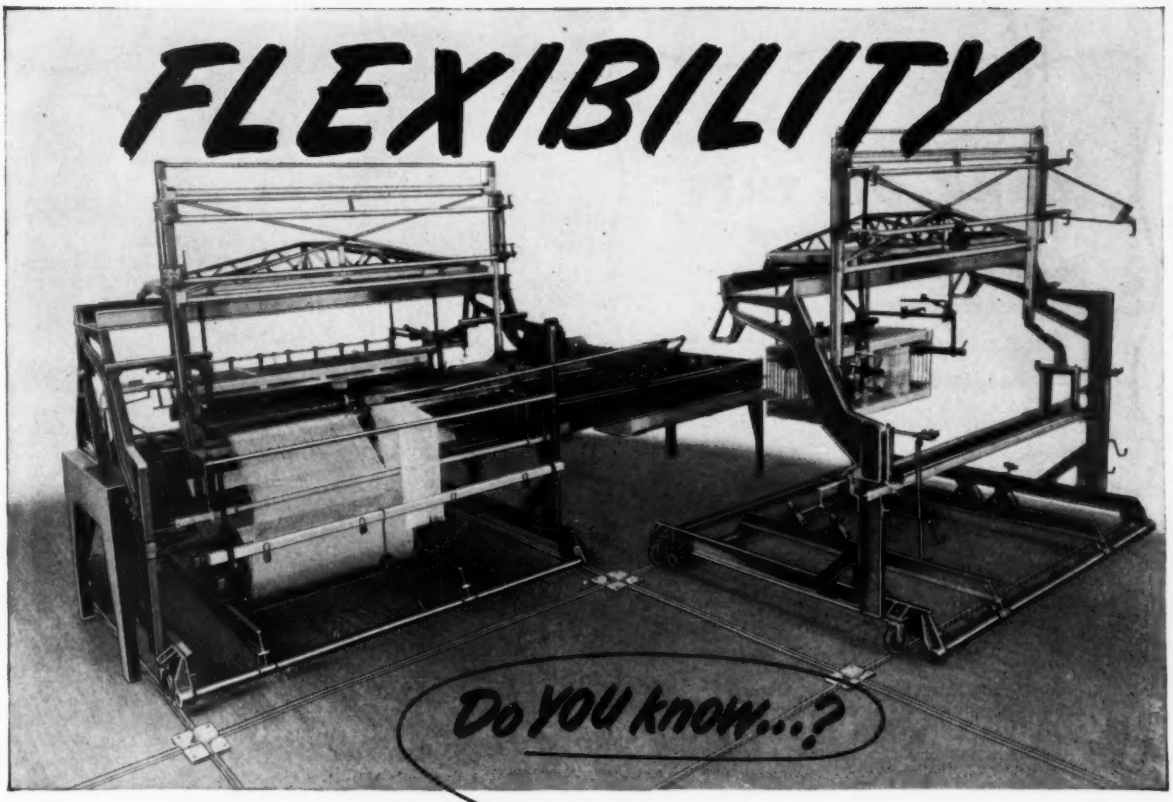
Park Yarn Mills, Kings Mountain, N. C., has let the contract to C. T. Bennett Construction Co. for the erection of a warehouse. The cost is about $85,000.

Springs Cotton Mills has purchased wide looms for the new addition to its Fort Mill, S. C., plant. The XL-model Draper looms have been bought from Naumkeag Steam Cotton Mills, Salem, Mass., Dan River Mills, Danville, Va., and Carolinian Mills, High Shoals, N. C.

WOOLEN & WORSTED MILLS

Appleton Woolen Mills, Appleton, Wis., has let the contract to Hoffman Co., Inc., Appleton, for a third-story addition to its present building. Orbison & Orbison, Appleton, is the engineer.

Chicago Curled Hair Co., Chicago, Ill., has purchased Angeles Fibre Products Co., Los Angeles, Calif., and will operate this mill as a subsidiary. Production will continue as in the past.



BARBER-COLMAN

WARP DRAWING MACHINE

BARBER COLMAN

- That these machines will draw a range from 15 denier to 350, or the equivalent in other counts.
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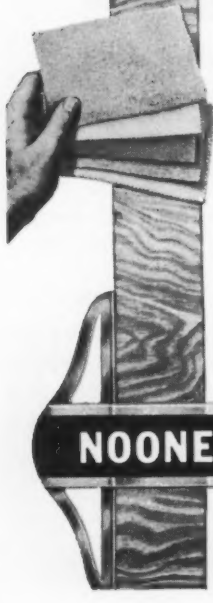

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News About **MILLS** (Continued)

Claren Fabrics Co., Inc., New York, N. Y., has purchased a unit in the former Lorraine Mfg. Co., Pawtucket, R. I., plant. Claren has also purchased some of Lorraine's machinery.

Clayton Carpet Mills, Spartanburg, S. C., has purchased Anchor Rug Mills, York, S. C. A local building now occupied by the weaving division of Anchor has been leased and will be used as a branch mill. Additional equipment will be installed.

Lincolnsfield Worsted Mill, Lincoln, Me., is now making worsteds under the new name of Prudential Fabrics Co.

Pickens Mfg. Co., Pickens, S. C., is constructing a 50,000-sq.-ft., one-story plant. The cost will exceed $1,000,000.

Pioneer Worsted Co., Inc., New Braunfels, Tex., has been sold to Edward Badough of New Braunfels.

Priscilla Worsted Mills, Thornton, R. I.—Controlling interest in this company has been acquired by R. P. Collins & Co., wool top-maker, Boston, Mass. The plant will continue to operate as in the past. R. Perry Collins is the president; David S. Seaman, Jr., treasurer; and Richard M. Nichols, secretary. David S. Seaman, Sr., former head of Priscilla, has retired.

George Sheard & Co. Ltd., Coaticook, Que., is completing an extension to its mill located on Stuart St. Cost is $60,000. Rudolphe Lajoie, Coaticook, is the architect. B. G. L. Engineers & Builders Ltd., Montreal, is the general contractor.

Silver Lake Worsted Mills, Inc., Providence, R. I., has received a permit to build a cold-storage and warehouse building that will cost $12,000.

John Walthers Fabrics, Inc., New York, N. Y., has been acquired by a group of Philadelphians. The company name has been changed to Samuel Zeitlin's Sons.

Wyandotte Worsted Co., Waterville, Me, has purchased Blackinton Mills, Conestee, S. C.

SYNTHETICS MILLS

Balston Novelty Yarn Corp., New York, N. Y., has leased space at Pawtucket, R. I., from Raycrest Mills for the manufacture of novelty yarns. The company will also do commission throwing.

J. R. Newell Co., Carrollton, Ga., has been formed to manufacture twisted novelty yarns for use in drapery and upholstery cloths. The new firm will operate in the former Mandeville Mill No. 1.

Seminole Mills, Statesville, N. C., a division of United Merchants & Mannfacturers, Inc., is increasing its production in weaving glass-fiber fabrics.

Spincraft, Inc., Milwaukee, Wis., plans to build a 50x280-ft. plant addition to cost over $300,000. R. J. Strauss, Milwaukee, is the consulting engineer.

Textron, Inc., Providence, R. I., has acquired its third nontextile subsidiary in a recent plan to diversify the fields from which the company draws profits. This latest acquisition is MB Mfg. Co., New Haven, Conn.

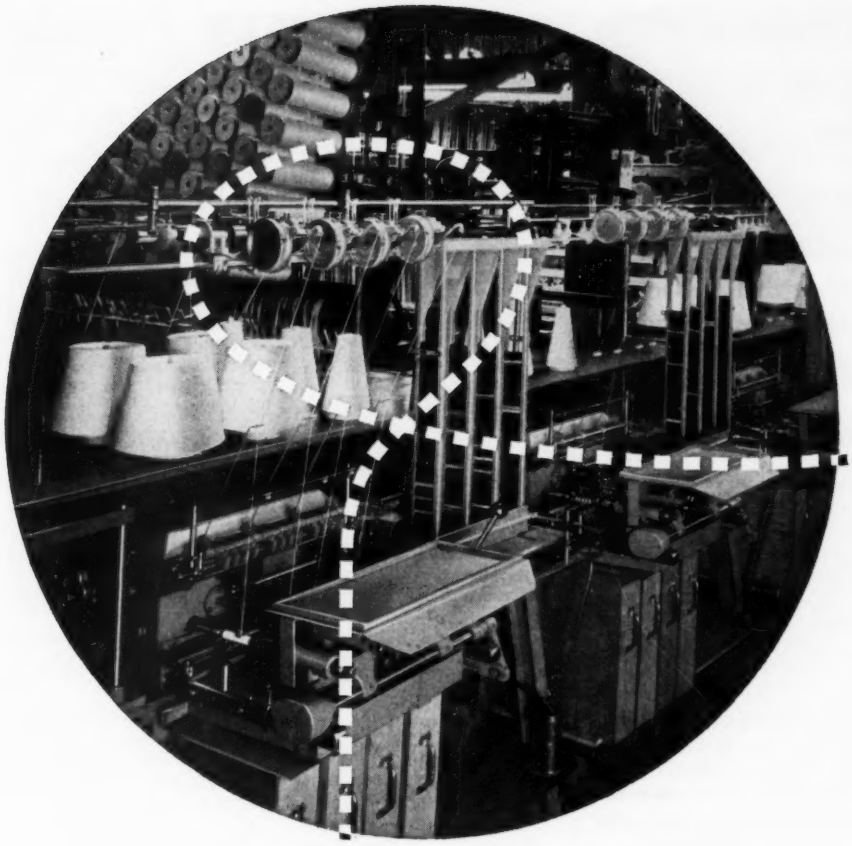
KNITTING MILLS

Adams-Millis Corp., High Point, N. C., is installing new equipment to produce women's seamless hosiery.

Robert Bruce Knitwear Co., Philadelphia, Pa., has begun production of full-fashioned sweaters of cashmere and lamb's wool. Twelve-section machines are used. The installation cost was $150,000.

Burlington Mills Corp., New York, N. Y., has awarded the contract for its new hosiery mill at Scottsboro, Ala., to H. L. Coble Construction Co., Greensboro, Ala., for $1,250,000.

E-Z Mills, Inc., New York,



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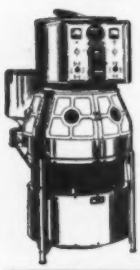

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News About MILLS (Continued)

N. Y., has purchased Bandy Mill, Cartersville, Ga. The firm recently completed a 33,000-sq.-ft. warehouse at Cartersville.

Flagg-Utica Corp., Florence, Ala., is completing construction of its $250,000 Knit-Kote division. The 14,440-sq.-ft. structure will manufacture industrial and mechanical cloth on eleven large circular knitting machines. The unit will have its own dyeing and cloth-finishing departments.

Gotham Hosiery Co., New York, N. Y., will remove its finishing facilities from the building at Jasper and Butler Sts., Philadelphia, Pa., and consolidate operations at its knitting plant at Erie Ave. and M St.

Hadley Corp., Weaverville, N. C., plans to construct a $25,000 addition. This sweater-manufacturing plant is a subsidiary of Cashmere Corp. of America. The addition is the first step in a gradual expansion program.

Jantzen, Inc., Portland, Ore., is reported to be completing the installation of $350,000 worth of new spinning equipment.

Jay Hosiery Mill, Durham, N. C., has been incorporated with an authorized capital stock of $100,000. Incorporators are M. J. Lacob and Sarah C. Lacob, both of Chapel Hill, N. C., and A. J. Colvin of Durham.

Jefferson Mills, Inc., Jefferson, S. C., is constructing a building to house new equipment for the manufacture of flat-knitted dress goods from filament nylon. The cost will be $400,000. It adjoins the Jefferson Bleachery.

Julius Kayser & Co., Inc., New York, N. Y., is installing 32-section, 75-gauge Kalio machines at its Belton, S. C., plant.

Kramer Hosiery Co., Nazareth, Pa., has changed its corporate title to Kramer Textiles, Inc.

Langer Knitting Mills, Inc., Jersey City, N. J., has changed its name to Morlan Knitting Mills, Inc.

Lecker Super Fit Lingerie, Inc., Montreal, Que., is planning to construct a plant addition to cost $25,000. The new plant will be one story, 70x70 ft.

Lincoln Hosiery Co. Ltd., St. Catharines, Ont., has installed two 30-section, 51-gauge full-fashioned machines, a new preboarding machine, drying cabinet, conditioner, and a 66-gauge R-100 full-fashioned machine.

London Hosiery Mills Co. Ltd., London, Ont., has begun production of 400-needle 15-den. nylon seamless stockings in both regular and mesh construction.

Manchester Mills, Manchester, Tenn., has bought additional land joining its present plant and plans to use it for future expansion.

Norwich Knitting Co., Clayton, N. C., has awarded the contract for the construction of a 10,000-sq.-ft. addition to its finishing plant.

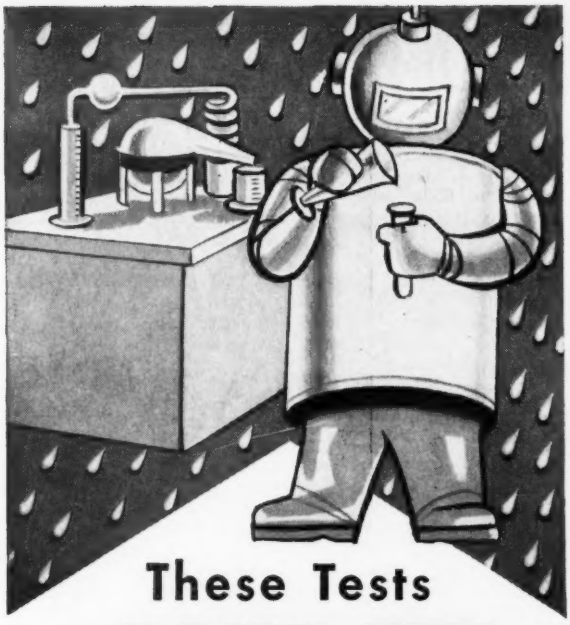
Pennwood Mills, Egg Harbor City, N. J., is changing over its Blackwood, N. J., plant to tricot production. Hosiery machines have been removed to the Janedale Hosiery Mills at Winchester, Va. Throwing equipment will also be installed at Blackwood.

Phillips-Russell Hosiery Mills, Inc., Carthage, N. C., is installing 20 close-stitch spiral machines and 25 argyle machines. The looping department will be expanded. This mill was recently acquired by Paul Russell, president of Russell Hosiery Mill, Star, N. C.

Rhody Knit, Inc., Central Falls, R. I., has arranged for an increase in capital to $100,000 and 400 shares of stock, no par value, for general operations and expansion.

Schiaparelli Stockings, New York, N. Y., is planning to purchase 75-gauge full-fashioned machines during 1954 and 1955. The cost is estimated at $1,000,000.

Siler City Mfg. Co., Siler City, N. C., is planning a $2,000,000 expansion project. The present building will be



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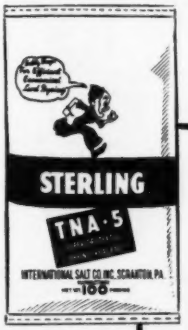

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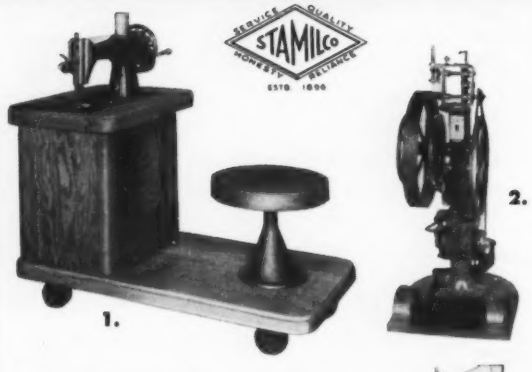

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News About **MILLS**

(Continued)

extended to house machinery to knit fine-gauge seamless stockings; and, in addition, a separate building will be erected to house several 75-gauge full-fashioned machines.

Standard Hosiery Mills, Inc., Burlington, N. C., plans to purchase 10 75-gauge, 32-section Kalio knitting machines from Karl Lieberknecht, Inc.

Strutwear, Inc., Clarksdale, Miss.—Board of County Commissioners has a low bid from G. and K. Construction Co., Pascagoula, Miss., at $67,942, for a new one-story addition to the local mill of Strutwear, Inc. Contract will be awarded soon.

Travis Fabrics, Inc., Lititz, Pa., has completed a modern nylon tricot plant that will be operated by Travis Mills Corp.

Vision Hosiery Mills, Inc., Belmont, N. C., has been incorporated with an authorized capital stock of $100,000. Principals are Henry A. Lineberger, Joseph W. Lineberger, and Arnold C. Black, all of Belmont.

Vogt Knitting Mills, Reading, Pa., has purchased the equipment of Rambo & Regar, Norristown, Pa. The new equipment includes about 150 knitting machines. These machines will be removed to Vogt's Reading plant.

Warren Bros. Ltd., St. Catharines, Ont., plans to build a three-story addition, 30x60 ft. William A. Salter, St. Catharines, is the architect.

Youthcraft Knitting Co., Brooklyn, N. Y., has moved to larger quarters at 119 Ingraham St. Wm. K. Polansky is the president.

DYEING AND FINISHING PLANTS

John T. Bennett Co., Philadelphia, Pa., has been sold to Howard Colehower, R. Emerson Putney, and Robert Fritz. Mr. Fritz will be general manager. No other change in personnel or operations is contemplated.

Greenville Finishing Co., Inc., Greenville, R. I., has been licensed by American Viscose Corp. to finish rayon fabrics by the Avcoset process.

Riegel Textile Corp., Ware Shoals, S. C., has been installing new German napping machinery under the direction of Heinrich Welter, of M. Gladbach, Germany. Mr. Welter has also been supervising the installation of similar machinery at the Trion, Ga., plant of the company.

Rock Hill Printing & Finishing Co., Rock Hill, S. C., has been licensed by American Viscose Corp. to finish rayon fabrics by the Avcoset process.

Rockland Bleach & Dye Works, Brooklandville, Baltimore, Md., is planning to construct a one-story addition and will award the contract soon. Howard R. Mason, Baltimore, is the architect.

Union Underwear Co., Campbellsville, Ky., has installed a Becco continuous bleaching range that will handle up to 145,000 lbs. per week.

U. S. Finishing Co., Hartsville, S. C., plans to construct an addition to its local mill for increased printing operations. Additional equipment will be installed for heavy fabric service.

York Dye Works, St. Johns, Que., has been established by Gunther Wolf, formerly owner of York Hosiery Dye Corp., New York, N. Y. The Canadian plant will engage only in preboarding, boarding, and dyeing hosiery. Louis Riviera has purchased Mr. Wolf's former business and is operating it under the name of York Hosiery Finishers, Inc., New York, N. Y.

FOREIGN MILLS

Gwalior Rayon & Art Silk Mills Ltd., Bombay, India, has started production. Machinery is from Dobson & Barlow Ltd., England.

Lanificio Gaetano Marzatto, Milan, Italy, is said to be planning the construction of a new spinning mill to be located at Cagliari, Sardinia.

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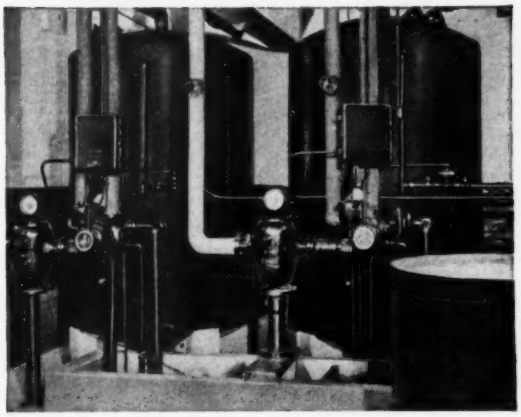

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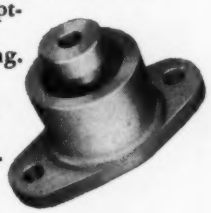

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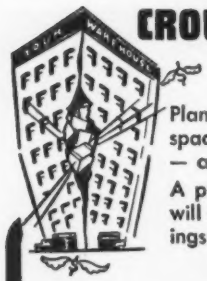

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NEWS ABOUT Men

Carroll R. Anderson has been appointed manager of research and development for Munsingwear, Inc., Minneapolis, Minn.

Ken Bailey has been named president and general manager of Riverside Silk Mills, Galt, Ont.

Ernest Baker has been named resident manager of the Puritan Mills of American Woolen Co., Plymouth, Mass. He succeeds **Ernest A. Eckert,** who is now resident manager of Collins and Aikman Corp., Plant J, Bristol, R. I.

Fred P. Bass has been named assistant overseer in the card room of the Hillside Plant of Callaway Mills, LaGrange, Ga.

Borden D. Billings, general superintendent of the Baltic Mills of American Woolen Co., Enfield, N. H., has been made resident manager.

Robert A. Bloomfield has been named assistant manager of the Synthetic Fabrics Dept. of Pacific Mills, Boston, Mass.

George Bolton has been made carding overseer at American Felt Co., Franklin, N. H.

J. Bouffard has been named overseer of carding at Amana Society Woolen Mills Div., Amana, Iowa.

Louis M. Bourware has been appointed assistant production manager of the textile division of United States Rubber Co., New York, N. Y. He will supervise production at the textile-division plants located in Scottsville, Va., Gastonia, N. C. Hogansville, Ga., Shelbyville, Tenn., Winnsboro, S. C. His headquarters will be at Winnsboro.

M. B. Bowman, Sr., has retired as president and director of Slingsby Mfg. Co., Brantford, Ont. He will continue as a consultant.

Roy Burdett has resigned as superintendent of the worsted-yarn department of the Springvale and Minerva Units, Goodall-Sanford, Inc., Sanford, Me.

JESSE A. WHITE, vice president of J. P. Stevens & Co., Inc., has assumed new duties as general manager of Republic Cotton Mills, Great Falls, S. C.

F. E. Cantrell has been named superintendent of Cone Mills Corp., Florence Div., Florence Plant, Forest City, N. C. He succeeds **H. Deal.**

George M. Chappell has resigned as assistant general manager of Wyandotte Worsted Co., Worcester, Mass., and is now assistant vice president in charge of manufacturing at Chatham Mfg. Co., Elkin, N. C.

Reuben Clark has been elected to the board of Verney Corp., Manchester, N. H. All other directors were re-elected.

Maurice L. Clemence has been elected treasurer of the Kendall Co., Boston, Mass. **W. O. Forssell,** manager of Kendall Mills Div., has been elected a director and a vice president. **H. K. Hallett,** manager of Kendall Cotton Mills Div. and a director since 1946, was also named a vice president.

Harold W. Conant, treas-

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HIGH PRODUCTION

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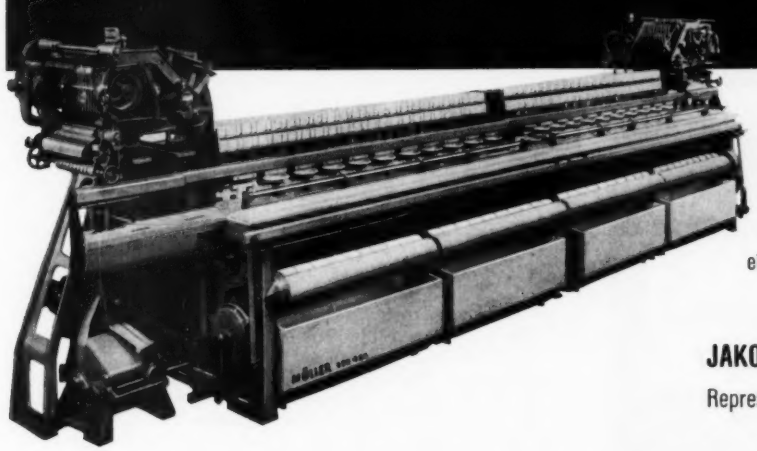
narrow fabric looms



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With STAONAL No. 29, our special marker for wet or dry lumber, you can mark wood bins, packing, shipping and storage boxes permanently, whether they're wet or dry, stay indoors or out—the marks won't come off no matter how long they're exposed. Available in 6 colors.
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News About MEN (Continued)

urer and general manager of United Elastic Corp., Easthampton, Mass., has been elected president. He succeeds the late **William L. Pitcher.**

John C. Cowan, Jr., has been elected to the newly created position of vice chairman, and **Henry E. Rauch** has been made executive vice president of Burlington Mills Corp., Greensboro, N. C.

Pomeroy Day has been elected to the board of Cheney Bros., Manchester, Conn., succeeding the late **Franklyn D. Griffin.**

James H. Dean has been named overseer of spinning, winding, and twisting at Anchor Rome Mills, Inc., Rome, Ga. He is succeeded as assistant overseer of spinning by **W. L. Adams.**

W. E. Dunn has resigned as superintendent of the Monarch plant of Monarch Mills, Union, S. C., and is now general superintendent of Huntsville Mfg. Co., Huntsville, Ala. **Lewis C. Ellis** succeeds Mr. Dunn as superintendent.

Ellwood M. Ellington has been named superintendent of the Old Fort Finishing Plant, Old Fort, N. C., a division of United Merchants & Manufacturers, Inc.

P. L. Factor has been elected president and treasurer of the newly formed Newton Textile Bleaching & Dyeing, Inc., Newton, Mass. He is also superintendent of bleaching and dyeing for Boston Knitting Mills, Newton, Mass.

Leonard Garard has been named assistant controller of Archer Hosiery Mills, Inc., Columbus, Ga.

Herbert C. Gates has been named superintendent of Monarch Knitting Co. Ltd., knitting division, Dunnville, Ont.

Noel Garvin, superintendent of the Burlington Mills plant at Newton, N. C., has been transferred to the company's plant at Cramerton, N. C., where he has been assigned to the division manager's staff to handle special assignments. **Robert Green,** who has been assistant superintendent of the Burlington plant at Franklinton, N. C., succeeds Mr. Garvin at Newton. **Lloyd Purser,** from the company's Steele plant at Rockingham, N. C., has been appointed assistant superintendent of the Franklinton plant.

Philip Gesoff, president and a founder of General Knitting Mills, Inc., Monroe, N. C., has sold his interest back to the corporation and resigned. **Louis Boxer,** a co-founder, has been elected president.

Charles F. Gibson has resigned as president of Calhoun Mills, Calhoun Falls, S. C., and is now director of all manufacturing operations of the seven cotton mills owned by Ely & Walker, Inc., Warrenton, Mo., the parent firm. **Tom Harris** has been named to succeed Mr. Gibson at Calhoun.

Stanley J. Gill has been promoted to methods supervisor in the engineering department of Bigelow-Sanford Carpet Co., Thompsonville, Conn.

L. Gordon Hale has retired as secretary of Duplan Corp., New York, N. Y. He is succeeded by **John E. Clark,** assistant secretary.

Stephen C. Hale is retiring as chief engineer of Fulton Bag & Cotton Mills, Atlanta, Ga. He will continue to serve the company on a consulting basis.

Ralph P. Hanes has been named chairman of the board of Hanes Dye & Finishing Co., Winston-Salem, N. C. **J. Robert Dunham, Sr.,** has been named president and treasurer. **Wellington Dunford** has been named controller.

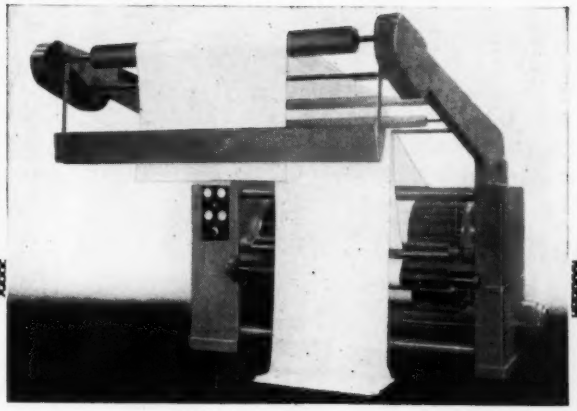
Monroe E. Hemmerdinger has retired as secretary-treasurer of Atlas Fibers Co., Inc., Glendale, L. I., and Beacon, N. Y. **Donald S. Beale** has been elected vice president; **John H. Baer,** secretary; **Gerwin W. Gabriel,** treasurer; and **Sherman Weiser** and **Norman I. Weiser,** directors.

John Howker has been named overseer of slashing at Hathaway Mfg. Co., New Bedford, Mass., succeeding **A. A. LaChapelle.**

Charles S. Jones has been

Know what you're doing when you nap with the

NEW GESSNER NAPPER



Gessner's new Hi-Torc Napper gives you maximum napping effect on any fabric without usual waste or flocking out, a new development in the napping field.

Four unique features of this new Gessner Napper include precise napper-roll torque control, self-correcting speed controls, higher positive cloth inspeed, and infinitely variable cloth tension control. Application of high maximum napping energy gives you as much as four times the production.

Extreme accuracy of the controls and a simple, positive means of making settings, which are automatically maintained, assure greater efficiency. In addition, a wider range of napping effects is possible because this new drive controls not only the speed but also the power exerted on the worker rolls. Cloth tensions are controlled by the automatic slack take-up of the torque-activated, takeaway feed roll. Ask for complete details.

DAVID GESSNER COMPANY WORCESTER, MASSACHUSETTS

Canadian Representative: W. J. Westaway, Montreal, Quebec; Hamilton, Ont.

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. . . less than 25¢ worth of an employee's time to check . . . and make sure his eyes are *working efficiently TOGETHER*, so that he is comfortable, efficient . . . and

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44% fewer accidents reported by plant managers after installing these visual checks. Other gains: 20% less spoilage, higher production, 45% saving in training costs.

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COLOR MATCHING

DOESN'T HAVE TO BE A PROBLEM

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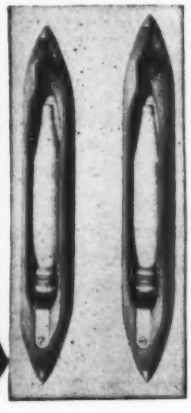
The new ANALYTE COLOR COMPARATOR is the answer.

CROWN ENGINEERING AND SALES CO.
421 Hill Street Harrison, N. J.

HAVE YOU TRIED THEM?



. . . Watson-Williams' newest additions—shuttles for Draper Looms, fitted with Cast Iron Eyes, to accommodate a longer filling package. Left—15¼" long. Right—15¾" long.

WATSON-WILLIAMS Mfg. Co.
MILLBURY, MASSACHUSETTS
SOUTHERN REPRESENTATIVES:
Watson & Desmond, Box 1954, Charlotte, N. C.
Arthur J. Bahan, P. O. Drawer 779, Greenville, S. C.
John Wyatt, P. O. Box 701, Greensboro, N. C.
NORTHERN REPRESENTATIVES:
Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.
Sutton M. Ebert, P. O. Box 7144, Elkins Park, Philadelphia, Pa.

News About MEN

(Continued)

named general superintendent of the gray mill of Montreal Cottons Ltd., Valleyfield, Que. **David Johnston** was also named a superintendent of the gray mill. **Stanley H. Chambers** has been named to head the finishing plant. **Dale Vander Voort** has resigned as company manager.

J. A. Kempfer has been named to succeed **A. B. Moss** as superintendent of the Wortendyke Mfg. Co. plant at Waynesboro, Va.

Horace Bushnell Learned has been elected vice president of Cheney Bros., Manchester, Conn., in charge of product development.

George E. MacLellan, Jr., treasurer and a director of American Woolen Co., Boston, Mass., has been elected a vice president.

James W. J. Mathis has been appointed overseer of weaving at Pepperell Mfg. Co., Lindale, Ga., succeeding the late **Ira M. Shamblin, Sr.**

John F. McGlinn has joined Nolde & Horst Co., Reading, Pa., as assistant to **Henri Stakgold**, president.

J. S. Moynan has been appointed manager of the Magog Div., Dominion Textile Co. Ltd., Montreal, Que. He succeeds **H. A. LeDuc**, resigned. Mr. Moynan, who has been superintendent of the print works in Magog, is succeeded in that post by **W. A. Tornquist.**

Paul Panneton has been named vice president of Granby Elastic & Textiles Ltd., Granby, Que., and **J. A. Hess** has been appointed a director. **Jonathan Rhyne** has succeeded **C. Rhyne Little** as superintendent of D. E. Rhyne Mills, Inc., Lincolnton, N. C.

Leon H. Roberts has been elected vice president and general manager of Rockland Bleach & Dye Works Co., Inc.

Prof. John H. Skinkle has been named executive director of the Research Foundation of Lowell Technological Institute, Lowell, Mass.

Melvin Smith has been promoted to superintendent of Mill No. 1 of Republic Cotton Mills, Great Falls, S. C.

NICHOLAS R. DOLIDA has been appointed manager of the Mechanical Development Dept. of Linen Thread Co., Inc., Paterson, N. J.

John W. Solomon has been named vice president of Monarch Rug Mills, Dalton, Ga.

W. H. Suttenfield, a vice president of American & Efird Mills, Inc., Mount Holly, N. C., has been appointed director of sales and chairman of the executive committee. **James H. Martin, Jr.**, who has been vice president and general manager of manufacturing, assisting in sales, succeeds Mr. Suttenfield as sales manager. Mr. Martin will continue his responsibilities as general manager of manufacturing. Mr. Suttenfield succeeds **R. S. Dickson**, president, as chairman of the executive committee.

Emil Tegtmeier has been named overseer of weaving for Seymour Woolen Mills, Seymour, Ind.

Raymond Terrio has been named overseer of finishing at Marland Mills, Andover, Mass., succeeding **R. Souter**, retired.

Forrest Ware has been promoted to head finisher at Varel Finishing Co., Martinsburg, W. Va.

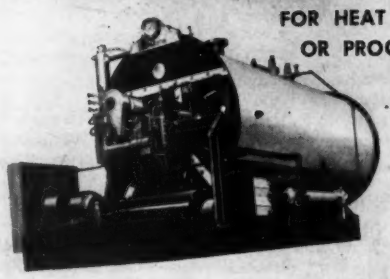
M. V. Wells has been named personnel director of Greenwood Mills, Greenwood, S. C.

Robert Wersben has resigned as vice president of Artcraft Hosiery Mills, Inc.

Francis W. White has been

STEAM

FOR HEAT
OR PROCESS



A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

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Clipper

BELT LACING EQUIPMENT

For Belts and Tapes 1/16" to 3/8" thick

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Most DEPENDABLE Belt Joints

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Grand Rapids 2, Michigan

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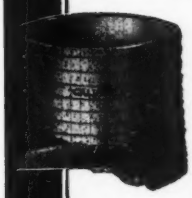

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MANUFACTURERS OF
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Special Soaps
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ECONOMY BALING PRESSES
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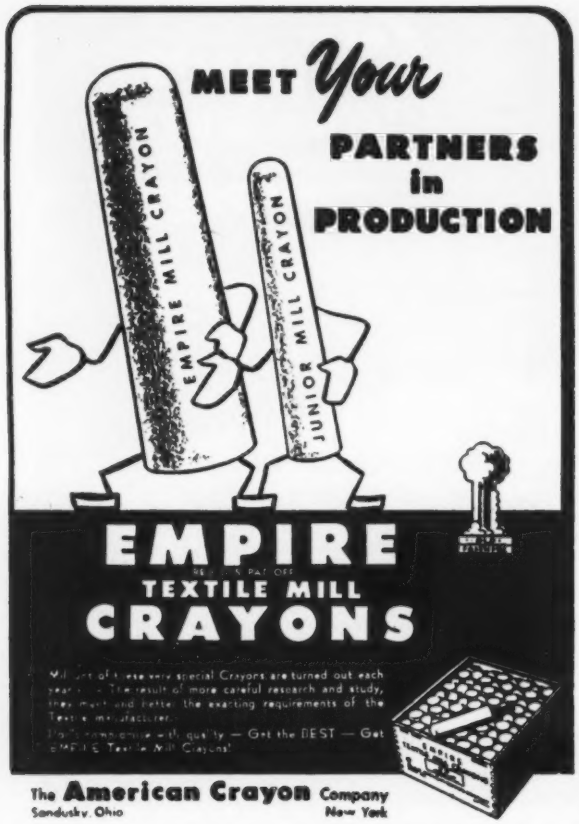
Other Sales and Service Branches in most Important Cities



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News About MEN (Continued)

has been succeeded as president of American Woolen Co., Boston, Mass., by Joseph B. Ely. Mr. White remains as a director.

J. A. White has been named general manager of Republic Cotton Mills, Great Falls, S. C. **Carl A. Johnson** has been named assistant general manager in charge of manufacturing at Republic's three plants.

Richard C. Whitin has retired as treasurer of Paul Whitin Mfg. Co., Northbridge, Mass., but will continue as a director. He is succeeded as treasurer by his son, **Richard C. Whitin, Jr.**, who will continue as comptroller.

Matthew J. Whittall, has been elected president of M. J. Whittall Associates, Worcester, Mass., succeeding the late **George H. Mirick.**

Robert C. Wilkie has been promoted to assistant director of research in the Pacific Mills Craft Fabric Div., Lawrence, Mass.

James L. Williams has been named assistant director of personnel and industrial relations at Erwin Mills, Durham, N. C. He will serve as assistant to **Dr. Frank T. de Vyver,** Erwin vice president in charge of personnel and industrial relations.

Chester F. Wood has retired as vice president and managing director of Cotton Threads Ltd., Montreal, Que. He has been succeeded as vice president by his son, **Everett G. Wood.**

OBITUARY

John A. Blankenbiller, 78, retired superintendent of Oakbrook Hosiery Mills, Reading, Pa.

Walter R. Britland, 60, former superintendent of American Thread Co., Merrick Mills, Holyoke, Mass.

Harris H. Bucklin, 74, vice president and treasurer of Interlaken Mills, West Warwick, R. I.

W. Clift Campbell, 56, former president of Campbell Hosiery Mills, Chattanooga, Tenn.

Wesley G. Carlson, 53, secretary and director of purchases of U S Bobbin & Shuttle Co., Lawrence, Mass.

Baxton Bragg Conner, 64, chairman of the finance committee and a former president of Avondale Mills, Sylacauga, Ala.

Pierre S. du Pont, 84, a director and honorary chairman of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Walter F. Fancourt, Jr., 71, president of W. F. Fancourt Co., Philadelphia, Pa.

Myron S. Freeman, 67, former president and general manager of the Bell Co., Worcester, Mass.

Frank J. Hale, 91, a director of Saco-Lowell Shops, Boston, Mass.

W. H. Hardeman, 77, former manager of the Ella Div. of Consolidated Textiles Co., Shelby, N. C.

George W. Hickey, 65, retired production manager of the American Thread Co. plant at Willimantic, Conn.

Chester A. Jordan, 72, chairman of the board of Limerick Yarn Mills, Manchester, N. H.

Joseph H. Lindsay, 51, an assistant on the staff of the general manager of Fieldcrest Mills, Leaksville, N. C.

George C. Schlegel, 85, secretary-treasurer of the Schlegel Mfg. Co., Rochester, N. Y.

Hoke Smith, 46, former superintendent of Steel Heddle Mfg. Co., Greenville, S. C.

Allie M. Wilder, 48, assistant sales manager of Fulton Bag & Cotton Mills, Atlanta, Ga.

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TRAVELLER SALESMAN wanted for Northern Territory. Advise experience and salary expected. SW-2742, Textile World.

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THROWING SUPT—48 yrs. old with 29 yrs. Intensive experience, beginning as operator, advancing to superintendency of new 25000 spindle plant, in twisting, combing, redrawing, reeling and quilling of silk, rayon, acetate and nylon. Includes 6 yrs. supervising throwing silk tram, organzine and hosiery yarns. Married. PW-1958, Textile World.

TRICOT SUPT. or Foreman available, thoroughly experienced in all phases of tricot operation, specialist in designing and making novelties, with long outstanding technical experience in Europe, England and the States. PW-2846, Textile World.

RASCHEL MECHANIC—designer of fabrics—assume charge of knitting—warping—mechanical and electrical inventor—ability to train personnel—first class ref. 8 years exp. available in two weeks. PW-2807, Textile World.

THROWING MILL Supt. Well versed all phases of operation and management of throwing plant. Twenty two years experience. Quality throwing of Rayon, Nylon, Dacron for hosiery, Tricot, Lace and speciality work. Thorough knowledge quality control, cost and incentives, labor relations and references excellent. Willing to go anywhere. PW-2803, Textile World.

PLUSH DYER with twenty-five years experience in laboratory and dyehouse desires change. PW-2787, Textile World.

DYER, MILL, lab exp. with most classes dyes, fibers, Textile, College grad. PW-2678, Textile World.

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TRICOT MANUFACTURERS demands for novelties and patterned fabrics are increasingly growing. If you have difficulty making them or you need assistance, an outstanding designer, technician available on consulting or temporary basis. WW-2888, Textile World.

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Position as Superintendent or Manager of textile plant. Fifteen years experience as Superintendent and Manager. Now employed as General Superintendent yarn mill with small weaving unit. Experienced on knitting and weaving yarns of various cotton & rayons. Producer and good manager of labor. Married, family, age 47, good education.

PW-2095, Textile World
330 W. 42 St., New York 36, N. Y.

Liaison - New York - or Gen. Superintendent

Manager having modern technical training, experienced in Throwing, Weaving, Converting, Narrow and Broad Goods, Plain and Jacquard; seeks responsible post with synthetic or silk weaving mills. Best References.

PW-2768, Textile World
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Interested in development work. Good technical background processing nylon for knitting and weaving required. Must have mechanical knowledge of throwing equipment. State qualifications and salary requirements in first letter to: A. D. Preston, Technical Personnel Manager,

THE CHEMSTRAND CORPORATION
DECATUR ALABAMA

WANTED
TIME STUDY ENGINEER

An experienced time study engineer for worsted mill. Excellent opportunity. Give full details in letter for interview later. Replies confidential.

P-2618, Textile World
330 W. 42 St., New York 36, N. Y.

SUPERINTENDENT WANTED

A qualified, experienced superintendent for a worsted spinning plant making knitting yarns. Give full details in letter for interview later. Replies confidential.

P-2619, Textile World
330 W. 42 St., New York 36, N. Y.

DESIGN ENGINEER

To design machinery and apparatus, consult on fabrication, and develop ideas presented by chemists and engineers, are needed in our Research and Development Department. If you have a B.S. Degree in Mechanical Engineering and at least five years experience in equipment and process design, send resume stating qualifications and salary requirements to:

A. D. Preston
Technical Personnel Manager
Box 4700

THE CHEMSTRAND CORPORATION
Decatur, Alabama

SENIOR RESEARCH ENGINEER

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Advanced degree in Physics or Chemical Engineering required, with yarn utilization experience, preferably in the mechanical goods industry.

Excellent opportunity for a research man, providing broad responsibility in developing the technology of yarn utilization.

This is a permanent position in Celanese's modern research laboratory in Summit, New Jersey, a pleasant residential community located within 30 miles of New York City.

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Corporation of America

Summit New Jersey

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We can place—Supt. nylon throwing; sweater supt. tricot mill manager; supt. pile fabrics; woolen yarn supt.; wstd. yarn supt.

OVERSEERS for dyeing synthetic piece goods, raw stock and woolen fabrics; sewing knit. fabrics; dyeing and fin. synthetic piece goods; woolen spin.; tricot dyeing; worsted carding, comb. and gilling; woolen finishing; cotton napping; woolen frame spin.; hosiery dye. and fin.; finishing foreman to sell textile machinery; colorist and dyer synthetic piece goods.

Power plant supervisors; garnett fixers and foremen; working colorist screen printing plant; second hand woolen card.; chemists, chem. engineers and dyers for mills, also demonstrating and selling; fixers and foremen for Brinton, Supreme and Raschel machs.; plant engineers and master mechanics; wool sorter; head mach. printer; man to head up production planning in knit. mill; time-study engineers; mule fixers; loom fixers; foreman-mechanic, full fashioned knitting machines.

If you are available for one of the positions listed here, or for any other executive position in textiles, SEND UP PROMPTLY YOUR RESUME. It will be in STRICTEST CONFIDENCE. No charge unless position is accepted through our Service.

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Second Hand Weaving Cotton
Second Hand Spring Cotton & Synthetics
Assistant Textile Engineer 4-5 yrs Exp
Loomfixer Draper & C & K
Interviews in N. Y. City

FORTUNE PERSONNEL SERVICE
18 E 41 St. New York 17, N. Y.

Business Opportunity Advertising—page 282

LIQUIDATION SALE OF MACHINERY, EQUIPMENT AND SUPPLIES OF THE WOOLEN DIVISION OF THE A. D. JUILLIARD CO., STOTTVILLE, NEW YORK

SPINNING & WEAVING

7—Davis & Furber Mixing & Fearnaught Pickers, 48"
1—Davis & Furber 10' Iron Cone Duster
4—Davis & Furber 60 x 60 3-cyl. Cards, Peralta, tape condenser, 120 ends. Age 1948.
18—Davis & Furber 48 x 60 3-cyl. Cards, Peralta, tape condenser, 96 ends.
1—Duesberg-Bosson Peralta, 68½" wide.
24—Davis & Furber Spinning Frames, Model E and F. 120 spdls., 6½" ga., 5" ring, Age 1948-51.
20—Whitin and Fales & Jenks Novelty Twisters, 3½" ga., 2¼" ring, 192 spdls.
2—H&W Yarn Conditioners, 6 trucks, Age 1949.
24—Crompton & Knowles W-3 Woolen Looms, 92", convertible
78—Crompton & Knowles W-3 Woolen Looms, 82", w/motor
3—Davis & Furber Pinless Dressers, compressors & creels

WET & DRY FINISHING

1—Parks & Woolson Cloth Steamer, 72", Age 1950
1—Parks & Woolson 2-cyl. Teasel Gig. Age 1950
1—James Hunter Pin Tenter Dryer, 72" wide, 32" long. Age 1949
1—James Hunter Carbonizing Range, Age 1949
8—Hunter Wet Fulling Mills, 8" x 18" rolls
1—Riggs & Lombard Double Open Soaper 36"
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8—Hunter Stainless Steel Enclosed Dye Kettles, 4' & 2'
20—Parks & Woolson Single Teasel Gigs, 68½" wide
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6—Davis & Furber Single Acting Nappers 70", 14 workers
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Complete with circulating system and viscometer.

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1—Toledo 1951 Model Lap Scale.

CARDING:

21—Saco-Lowell 1951 Model Revolving Flat Cards, 40" wide, equipped with 27" doffers, and 14" coilers. Cards are equipped with CWC clothing, and are individually motor driven with 550 volt, 60 cycle, 3 phase motors. Three of the cards are equipped with Saco-Lowell continuous strippers.
1—Saco-Lowell 1951 Model Roller Top Card, 40" wide, equipped with 14" coiler, 27" doffer, fancy roll, and CWC clothing.
1—Saco-Lowell 1951 Model Single Beater No. 6 Waste Machine.
1—1951 Model 39" Harwood Bramwell Feeder.

DRAWING:

40—Deliveries of 1951 Model Saco-Lowell three-over-four Drawing, Model DS-1, equipped with 14" coilers. Frames are equipped with three-shift hank clocks, motor driven with 550 volt, 60 cycle, 3 phase motors.

ROVING:

6—Saco-Lowell 1951 Model 10 x 5 Roving Frames, equipped with FS-2W Long Draft, 108 spindles each, equipped with three-shift hank clocks, Bijur one-shot lubricating system, double line lifting rolls, individually motor driven.
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25—Saco-Lowell 4-¼" Gauge, 1946 Model, Tape Drive Roth Long Draft Spinning Frames. Frames are Model R-1, equipped with Saco-Lowell B-2 ball bearing spindles, 256 spindles per frame, 9" traverse, paper tubes, 10" ball bearing cylinders, revolving top clearers, Bijur one-shot lubricating system, ball bearing idlers, separators. Part of the frames are equipped with 3" rings, and part are equipped with 2-½" rings. Frames are individually motor driven with 15 HP, 550/60/3 phase motors. Frames are offered complete with paper tubes, supplies, and motors, etc.

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R. Weaving and Warp Preparation Equipment and Supplies
T. Yarn-Production, Twisting and Winding Equipment and Supplies

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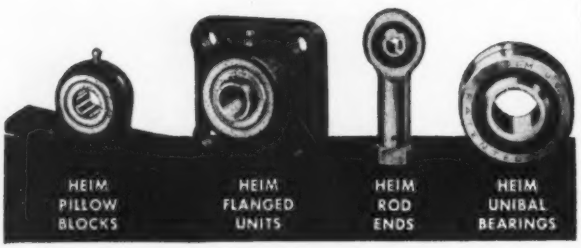

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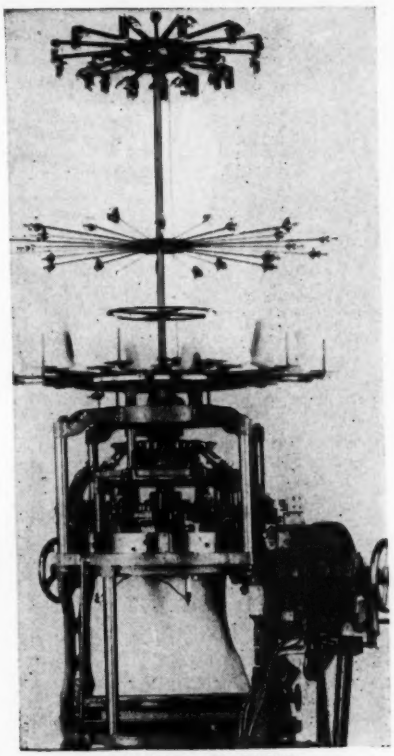

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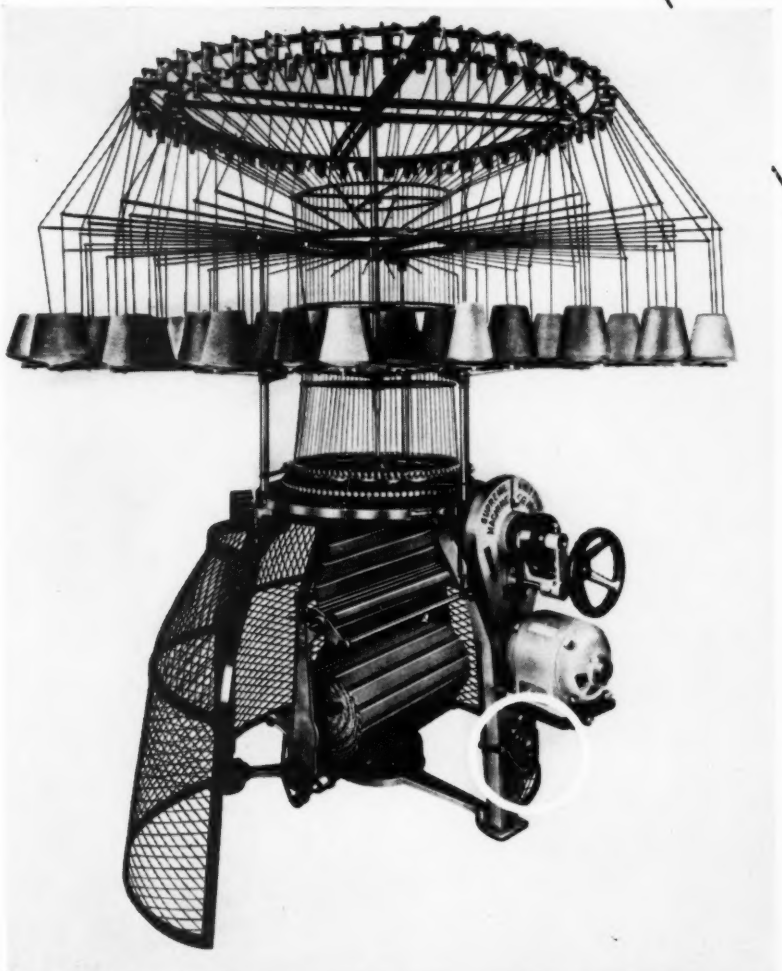
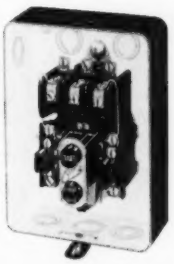
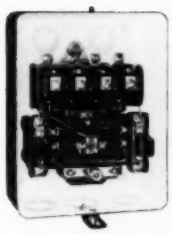


Wide Stripe Jersey Machine, manufactured by Supreme Knitting Machine Company of Brooklyn, New York, equipped with Allen-Bradley Bulletin 609 Manual Starter.



Bulletin 609, Size 1, Manual Motor Starter. "Quick-make," "quick-break" switch action.



Bulletin 709, Size 1, Automatic Motor Starter. Note compact unit. Generous wiring space. Bright white interior.

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